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Natural Resources  
Conservation  
Service

In cooperation with the  
Anchorage Soil and  
Water Conservation  
District; Chugach State  
Park; Cook Inlet  
Region Inc.; Eklutna  
Inc.; Municipality of  
Anchorage; U.S.  
Department of the  
Interior, Bureau of  
Land Management;  
University of Alaska  
Fairbanks, Agricultural  
and Forestry  
Experiment Station;  
U.S. Department of the  
Army; and the U.S. Air  
Force

# Soil Survey of Anchorage Area, Alaska





# How To Use This Soil Survey

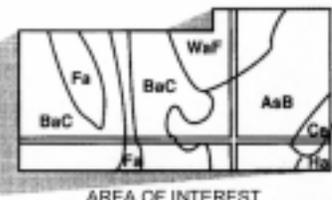
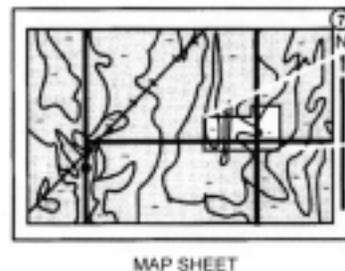
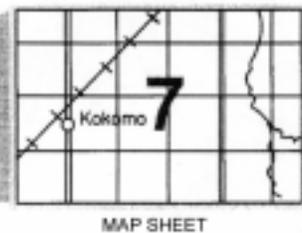
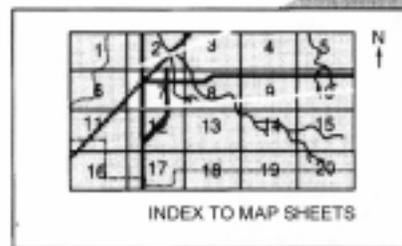
## Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

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This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural and Forestry Experiment Station, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 2000. Soil names and descriptions were approved in 2001. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2001. This survey was made cooperatively by the Natural Resources Conservation Service; the Anchorage Soil and Water Conservation District; Chugach State Park; Cook Inlet Region Inc.; Eklutna Inc.; Municipality of Anchorage; U.S. Department of the Interior, Bureau of Land Management; University of Alaska Fairbanks, Agricultural and Forestry Experiment Station; U.S. Department of the Army; and the U.S. Air Force. This survey is part of the technical assistance furnished through the Anchorage Soil and Water Conservation District.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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**Cover: The city of Anchorage, Alaska surrounded by the Cook Inlet and the Chugach Mountains. Typic Cryaquents soils occur on the vegetated tidal flats in the foreground. Talkeetna, Chugach, and Deneka soils, and rock outcrop occur on the Chugach Mountains in the background.**

Additional information about the nation's natural resources is available on the Natural Resources Conservation Service home page on the World Wide Web. The address is <http://www.nrcs.usda.gov>.

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# Foreword

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The USDA Natural Resources Conservation Service is proud to present the following soil survey, which covers much of the land area in Anchorage, Alaska.

This soil survey contains information that can be used in land-planning programs in the Anchorage Area, Alaska. It contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Government agencies, the Soil and Water Conservation District, community officials, Alaska Native tribes, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special land practices. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

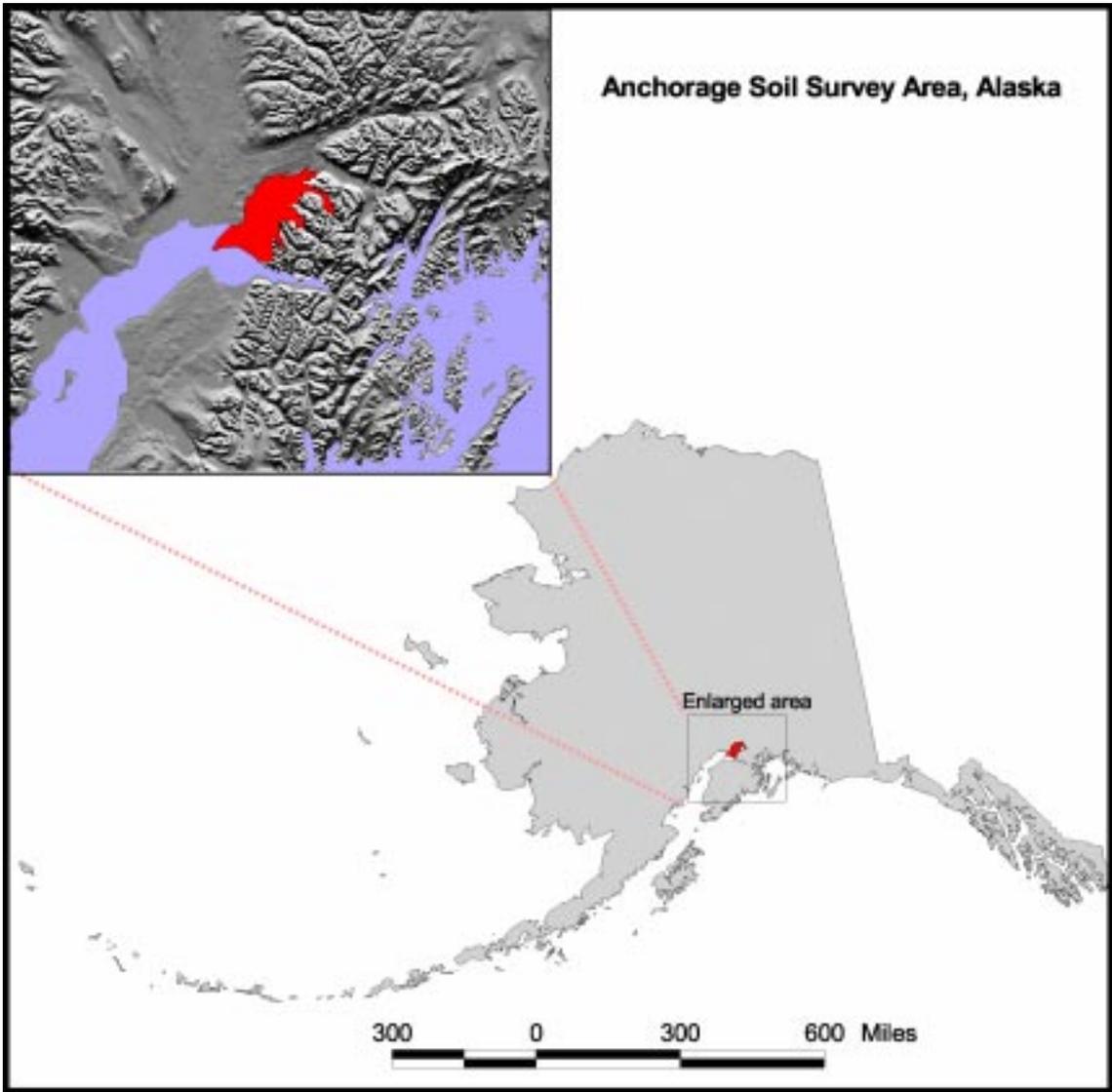
The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on land uses. Land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The landowner or user is responsible for identifying and complying with existing laws and regulations. The Natural Resources Conservation Service and the Anchorage Soil and Water Conservation District can provide helpful information.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Wet soils are poorly suited for waste treatment systems. A high water table makes a soil poorly suited for basements or underground installations.

Many soil properties that affect land use are described in this soil survey. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the Anchorage office of the Natural Resources Conservation Service or Alaska Cooperative Extension.



Chuck Bell  
State Conservationist  
Natural Resources Conservation Service



Location of the survey area in Alaska.



# Soil Survey of Anchorage Area, Alaska

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By Dennis Moore, Natural Resources Conservation Service

Fieldwork by Greg Hammer, Tim Miland, Joseph J. Eckenrode, Joe White, Ken Wikgren, Dennis Moore, Josh Gutshall, Camille Abrego, Jennifer Sampson, Andrew Baker, and Dan Sasse, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service

In cooperation with the Anchorage Soil and Water Conservation District; Chugach State Park; Cook Inlet Region Inc.; Eklutna Inc.; Municipality of Anchorage; U.S. Department of the Interior, Bureau of Land Management; University of Alaska Fairbanks, Agricultural and Forestry Experiment Station; U.S. Department of the Army; and the U.S. Air Force.

## General Nature of the Survey Area

The Anchorage Area is located in southcentral Alaska and includes the Anchorage Bowl and parts of the adjacent Chugach Mountains. The area encompasses most of the Municipality of Anchorage, including the city of Anchorage; nearby communities of Eagle River, Chugiak, Peters Creek, and Eklutna; Fort Richardson Army Base; and Elmendorf Air Force Base. The area extends from Potter's Marsh on the south edge of Anchorage, north to the Knik River, and from the coast of Cook Inlet east to the front range of the Chugach Mountains. Fire Island, west of Anchorage, is included also. The survey area is approximately 288,200 acres (116,721 ha).

Parts of the Anchorage Area were included in an earlier investigation of soils ([USDA, 1979](#)). The Soil Survey of Anchorage Area, Alaska updates information provided in that investigation and extends survey coverage to the additional areas described above. The primary purposes of this survey are to provide detailed soils maps of the

area, descriptions of area soils and soil properties, and interpretations for selected land uses.

## Landforms and Geologic Deposits

The eastern portion of the survey area consists of the slopes of the Chugach Mountains. To the west are broad outwash plains, flood plains, stream terraces, and tidal plains. Most landforms have been influenced by glaciation and many are mantled by loess deposits.

Steep hill and mountain slopes and adjoining valleys characterize much of the landscape in the Chugach Mountains. A variety of rock types are exposed along the Chugach Mountains. Tertiary sedimentary rocks are the most common. Thick deposits of glacial drift often mask the underlying bedrock topography.

Glacial landforms include nearly level and undulating outwash and till plains, pitted outwash plains, and steep moraines. Soil parent materials include sandy and gravelly glacial outwash and loamy and gravelly glacial drift.

Flood plains and stream terraces occur throughout the survey area. Flood plain features include point bars, cutoff meanders, and back swamps. Stream terraces are generally discontinuous and often narrow in width. Short, steep escarpments between flood plains and different terrace levels are found in many places. Soil parent materials on flood plains and stream terraces include stratified sandy and silty alluvium of varying thickness over gravelly and sandy alluvium.

Many uplands throughout the area are covered with a layer of silty loess. The loess source is glacial flour from flood plains and volcanic ash. The thickness of loess varies throughout the survey area and continues to accumulate today.

Cliff-head dunes, with loess as much as 50 feet (15 m) thick, can be found on escarpments around Kincaid Park and Fire Island. Cliff-head dunes often have a fairly high composition of sand.

The tidal plains along Cook Inlet consist of silty and clayey sediments. Poorly drained bogs and fens occupy broad depressions and occur throughout the survey area.

## Water Resources

There are two rivers in the survey area, Eagle and Eklutna Rivers. They originate from large glaciers in the Chugach Mountains. Non-glacial streams, such as Ship, Campbell, and Rabbit Creeks, flow from the surrounding mountains into the Cook Inlet. Many lakes and ponds are scattered throughout the survey area.

## Native Vegetation

The majority of the survey area is forested. Forest cover types on flood plains and low stream terraces include balsam poplar, balsam poplar-white spruce, paper birch, and paper birch-white spruce. On higher stream terraces and across much of the uplands, the predominant forest cover types include paper birch and paper birch-white spruce. Upland paper birch stands may contain a high percentage of quaking aspen.

Intermixed throughout much of the forested zone are extensive lowland bogs dominated by stunted black spruce, ericaceous shrubs, and sphagnum moss. Fens and other gently sloping drainages dominated by willow, alder, and a variety of sedges and other hydrophytes are also common. Halophytic

wet sedge meadows and marsh occupy the upper tidal zone along the Cook Inlet.

Treeline occurs between about 1,500 to 3,000 feet (457 to 914 m) elevation. The transition between the forested zone and the alpine zone above is characterized by a mosaic of open stands of white spruce and mixed paper birch-white spruce, alder scrub, and bluejoint reedgrass grassland. Alder scrub, willow scrub, and bluejoint reedgrass grassland in the subalpine zone are rapidly replaced, with increasing elevation, by a variety of dwarf shrub and herbaceous plant communities characteristic of the true alpine.

Most of the forested portion of the area is included in Major Land Resource Area 170, Cook Inlet-Susitna Lowland ([USDA, 1981](#)). The portion of the area near and above treeline is included in Major Land Resource Area 169, Southcentral Alaska Mountains ([USDA, 1981](#)).

## Climate

The climate of the Anchorage Area is transitional maritime-continental, characterized by long cool winters and short warm summers. The Chugach Mountains and Cook Inlet have a substantial influence on the climate. The Chugach Mountains form a partial barrier against moist oceanic air moving in from the Gulf of Alaska and Prince William Sound. Most of the precipitation carried by weather systems originating in the Gulf of Alaska falls on the windward slopes of the Chugach Mountains. The survey area lies in this rain shadow created by the Chugach Mountains.

[Table 1](#) gives data on temperature and precipitation for the survey area as recorded at Anchorage for the period 1961-1990. [Table 2](#) shows probable dates of the first freeze in fall and the last freeze in spring. [Tables 3](#) provides data on the length of the growing season.

In winter (November through March), the average temperature is 16.4 degrees F (-8.6 degrees C) and the average daily minimum temperature is 9.7 degrees F (-12.3 degrees C). The lowest temperature on record, which occurred on January 5, 1975, is -34 degrees F (-36.3 degrees C). In summer, the average temperature is 56.5 degrees F (13.4 degrees C) and the average daily maximum temperature is 63.6 degrees F (17.4 degrees C). The highest recorded temperature, which occurred on June 14, 1969, is 85 degrees F (29 degrees C).

Growing degree days, shown in [table 1](#), are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature of 40 degrees F (4.4 degrees C).

The total annual precipitation in Anchorage is about 16 inches (40 cm). Of this, 8.8 inches (22 cm), or 55 percent, usually falls in May through September. In two years out of 10, the rainfall in May through September is less than 4.25 inches (11 cm). During many years, a lack of sufficient precipitation in May and June results in a soil moisture deficit during the period of plant emergence. The average seasonal snowfall is about 70 inches (178 cm). The greatest snow depth at any one time during the period of record was 147 inches (373 cm).

Winds in the Anchorage Area are generally light. However on winter days strong winds up to 90 mph may blow across the entire area and very strong winds occur on the hillside at almost any time of the year.

Day length, the period between sunrise and sunset, lasts over 19 hours in late June, but in late December only lasts about 6 hours. The day length for late September and late March is about 12 hours.

## How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location; and a discussion of their suitability, limitations, and management for specified uses. To characterize and map the soils, soil scientists dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The soil scientists also observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of native plants; and the kinds of geologic materials.

Before beginning the fieldwork, relevant information on the climate, geology, geomorphology, hydrology, and vegetation of the survey area was assembled. Aerial photography of the survey area was acquired and prepared for field use and mapping. Aerial photography taken in 1996 at a scale of 1:24,000 was used for field mapping. Field

work for the soil survey was conducted between 1996 and 2000.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are

predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

## Detailed Soil Map Units

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The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called non-contrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions,

especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Map units that consist of one major component are called consociations. Matsu silt loam, 0 to 3 percent slopes, is an example.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A complex consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Disappear-Pioneer Peak complex, 0 to 7 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous

areas are somewhat similar. Nakochna-Rock outcrop association, 20 to 85 percent slopes, is an example.

An undifferentiated group is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Susivar and Niklavar soils, fine sandy loams, is an undifferentiated group in this survey area.

This survey includes miscellaneous areas. Such areas have little or no soil material and support little or no vegetation. Urban land is an example.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

### **400—Anchorpark loamy very fine sand, 30 to 85 percent slopes**

*Elevation:* 16 to 279 feet (5 to 85 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

#### ***Anchorpark and Similar Soils***

*Extent:* 80 to 100 percent of the map unit

*Landform:* dunes

*Slope shape:* linear down and across the slope

*Slope range:* 30 to 85 percent

*Slope length:* 98 to 328 feet (30 to 100 m)

*Parent material:* eolian sands

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* somewhat excessively drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 3.9 inches (10 cm)

*Vegetation:* paper birch forest, mixed paper birch-white spruce forest

*Representative profile:*

Oe—0 to 1 inch (0 to 3 cm); moderately decomposed plant material, moderately rapid permeability

E—1 to 4 inches (3 to 10 cm); loamy very fine sand, moderately rapid permeability

Bw1—4 to 9 inches (10 to 23 cm); loamy very fine sand, moderately rapid permeability

Bw2—9 to 14 inches (23 to 36 cm); fine sand, rapid permeability

C—14 to 60 inches (36 to 152 cm); fine sand, rapid permeability

#### ***Minor Components***

Smithfha and similar soils: 0 to 20 percent of the map unit

Kashwitna and similar soils: 0 to 10 percent of the map unit

#### ***Management Considerations***

*Soil-related factors:* slope, permeability, and high sand content

### **401—Andic Humicryods-Rock outcrop association, 25 to 85 percent slopes**

*Elevation:* 1,312 to 4,429 feet (400 to 1,350 m)

*Mean annual precipitation:* 30 to 50 inches (76 to 127 cm)

*Frost-free period:* 65 to 107 days

#### ***Andic Humicryods and Similar Soils***

*Extent:* 55 to 90 percent of the map unit

*Landform:* mountains

*Slope shape:* convex down and across the slope

*Slope range:* 25 to 85 percent

*Slope length:* 16 to 1,640 feet (5 to 500 m)

*Parent material:* ash influenced loess over till and colluvium

*Depth to bedrock (lithic):* 20 to 72 inches (51 to 183 cm)

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* well drained

*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 11.5 inches (29 cm)  
*Vegetation:* dwarf ericaceous shrub scrub, low willow scrub, mountain hemlock scrub (krummholz)  
*Representative profile:*  
 Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability  
 E—3 to 5 inches (8 to 13 cm); silt loam, moderate permeability  
 Bhs—5 to 20 inches (13 to 51 cm); gravelly silt loam, moderate permeability  
 2C—20 to 60 inches (51 to 152 cm); very gravelly fine sandy loam, moderate permeability

### **Rock outcrop**

*Extent:* 15 to 25 percent of the map unit  
*Landform:* mountains  
*Slope shape:* linear or convex down and across the slope  
*Slope range:* 30 to 85 percent  
*Note:* Rock outcrop consists of areas of bedrock exposed at the surface.

### **Minor Components**

Histic Cryaquepts and similar soils: 0 to 10 percent of the map unit  
 Rubble land: 1 to 10 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, cobbles, frost action, and permeability

## **402—Clam Gulch silt loam, 0 to 7 percent slopes**

*Elevation:* 33 to 820 feet (10 to 250 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### **Clam Gulch and Similar Soils**

*Extent:* 60 to 90 percent of the map unit

*Landform:* depressions on till plains  
*Slope shape:* concave down and across the slope  
*Slope range:* 0 to 7 percent  
*Slope length:* 33 to 131 feet (10 to 40 m)  
*Parent material:* fine-silty glacial drift  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe  
*Runoff:* very high  
*Drainage class:* poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-May—15 inches (38 cm); other months—18 inches (45 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 15.9 inches (40 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oe—0 to 4 inches (0 to 10 cm); moderately decomposed plant material, moderately rapid permeability  
 Ag—4 to 9 inches (10 to 23 cm); silt loam, moderately slow permeability  
 Bg1—9 to 14 inches (23 to 36 cm); silty clay loam, slow permeability  
 Bg2—14 to 46 inches (36 to 117 cm); silty clay loam, slow permeability  
 Cg—46 to 60 inches (117 to 152 cm); silty clay loam, slow permeability  
*Note:* Construction may have altered the water table in some areas.

### **Minor Components**

Doroshin, ponded, and similar soils: 5 to 20 percent of the map unit  
 Jacobsen and similar soils: 5 to 20 percent of the map unit

### **Management Considerations**

*Soil-related factors:* water table, frost action, and permeability

## **403—Clam Gulch-Doroshin-Jacobsen complex, 0 to 15 percent slopes**

*Elevation:* 295 to 1,476 feet (90 to 450 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### **Clam Gulch and Similar Soils**

*Extent:* 35 to 65 percent of the map unit  
*Landform:* depressions on till plains  
*Slope shape:* concave down and across the slope  
*Slope range:* 0 to 15 percent  
*Slope length:* 33 to 131 feet (10 to 40 m)  
*Parent material:* fine-silty glacial drift  
*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe  
*Runoff:* very high  
*Drainage class:* poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April–May—15 inches (38 cm); other months—18 inches (45 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 15.9 inches (40 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oe—0 to 4 inches (0 to 10 cm); moderately decomposed plant material, moderately rapid permeability  
 Ag—4 to 9 inches (10 to 23 cm); silt loam, moderately slow permeability  
 Bg1—9 to 14 inches (23 to 36 cm); silty clay loam, slow permeability  
 Bg2—14 to 46 inches (36 to 117 cm); silty clay loam, slow permeability  
 Cg—46 to 60 inches (117 to 152 cm); silty clay loam, slow permeability  
*Note:* Construction may have altered the water table in some areas.

### **Doroshin and Similar Soils**

*Extent:* 25 to 60 percent of the map unit  
*Landform:* depressions on outwash plains  
*Slope shape:* concave down and across the slope  
*Slope range:* 0 to 15 percent  
*Slope length:* 33 to 131 feet (10 to 40 m)  
*Parent material:* organic material over loamy and gravelly sediments  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* very high  
*Drainage class:* very poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* 0 inches (0 cm)  
*Ponding:* none

*Available water capacity (approximate):* 16.4 inches (42 cm)

*Vegetation:* stunted black spruce woodland and open forest, mixed paper birch-white spruce forest, bluejoint reedgrass meadow

*Representative profile:*

Oe—0 to 43 inches (0 to 109 cm); mucky peat, moderately rapid permeability

2Cg—43 to 60 inches (109 to 152 cm); gravelly loamy sand, moderately rapid permeability

*Note:* Construction may have altered the water table in some areas.

### **Jacobsen and Similar Soils**

*Extent:* 5 to 25 percent of the map unit  
*Landform:* depressions on till plains  
*Slope shape:* concave down and across the slope  
*Slope range:* 0 to 15 percent  
*Slope length:* 33 to 131 feet (10 to 40 m)  
*Parent material:* alluvium overlying gravelly glacial drift  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* very high  
*Drainage class:* very poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April–May—6 inches (15 cm); other months—12 inches (30 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 5.6 inches (14 cm)  
*Vegetation:* mixed paper birch-white spruce forest, stunted black spruce woodland and open forest  
*Representative profile:*  
 Oa—0 to 8 inches (0 to 20 cm); muck, moderate permeability  
 Ag—8 to 11 inches (20 to 28 cm); gravelly silt loam, moderate permeability  
 2Cg1—11 to 14 inches (28 to 36 cm); very gravelly loamy sand, moderately rapid permeability  
 2Cg2—14 to 60 inches (36 to 152 cm); very gravelly sandy loam, moderately rapid permeability  
*Note:* Construction may have altered the water table in some areas.

### **Minor Components**

Pioneer Peak and similar soils: 0 to 10 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, ponding, water table, excess organic matter, frost action, high clay content, and permeability

### **404—Cryosaprists, 0 to 1 percent slopes**

*Elevation:* 0 to 23 feet (0 to 7 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

#### **Cryosaprists, tidal flats, and Similar Soils**

*Extent:* 85 to 100 percent of the map unit  
*Landform:* salt marshes  
*Slope shape:* linear down and across the slope  
*Slope range:* 0 to 1 percent  
*Slope length:* 164 to 3,281 feet (50 to 1,000 m)  
*Parent material:* organic material  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* very high  
*Drainage class:* very poorly drained  
*Flooding:* very frequent  
*Depth to high water table (approximate):* 0 inches (0 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 19.5 inches (50 cm)  
*Vegetation:* halophytic sedge-grass meadow, tall alder scrub  
*Representative profile:*  
 Oi—0 to 9 inches (0 to 22 cm); peat, rapid permeability  
 Oe—9 to 60 inches (22 to 152 cm); mucky peat, moderately rapid permeability

#### **Minor Components**

Typic Cryaquepts, tidal flats, and similar soils: 0 to 10 percent of the map unit  
 Water, saline: 0 to 10 percent of the map unit

### **Management Considerations**

*Soil-related factors:* flooding, water table, excess organic matter, frost action, and permeability

### **405—Cryorthents, silty, 5 to 65 percent slopes**

*Elevation:* 0 to 82 feet (0 to 25 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

#### **Cryorthents, silty, and Similar Soils**

*Extent:* 80 to 100 percent of the map unit  
*Landform:* marine terraces  
*Slope shape:* concave or convex downslope; concave or convex across the slope  
*Slope range:* 5 to 65 percent  
*Slope length:* 66 to 328 feet (20 to 100 m)  
*Parent material:* marine deposits  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—slight  
*Runoff:* very high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 11.9 inches (30 cm)  
*Vegetation:* mixed paper birch-white spruce forest  
*Representative profile:*  
 Oi—0 to 1 inch (0 to 2 cm); slightly decomposed plant material, moderately rapid permeability  
 C—1 to 60 inches (2 to 152 cm); silt loam, moderately slow permeability  
*Note:* Cryorthent, silty soils are on dissected marine terraces that slumped during the 1964 earthquake.

#### **Minor Components**

Histic Cryaquepts, silty, and similar soils: 0 to 20 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, frost action, and permeability

### **406—Cryorthents and Urban land, 0 to 5 percent slopes**

*Elevation:* 33 to 902 feet (10 to 275 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### ***Cryorthents, skeletal, and Similar Soils***

*Extent:* 0 to 100 percent of the map unit

*Landform:* outwash plains, till plains

*Slope shape:* linear down and across the slope

*Slope range:* 0 to 5 percent

*Slope length:* 328 to 13,123 feet (100 to 4,000 m)

*Parent material:* glacial sediments

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* low

*Drainage class:* somewhat excessively drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 4.7 inches (12 cm)

*Representative profile:*

C—0 to 60 inches (0 to 152 cm); very gravelly sandy loam, moderate permeability

### ***Urban land***

*Extent:* 0 to 100 percent of the map unit

*Landform:* urban land

*Slope shape:* linear down and across the slope

*Slope range:* 0 to 5 percent

### ***Minor Components***

Icknuun, ponded, and similar soils: 0 to 5 percent of the map unit

Water: 0 to 5 percent of the map unit

### ***Management Considerations***

*Soil-related factors:* slope, large stones, cobbles, high gravel content, high sand content, frost action, and permeability

## **407—Cryorthents and Urban land, 5 to 20 percent slopes**

*Elevation:* 33 to 328 feet (10 to 100 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### ***Cryorthents, skeletal, and Similar Soils***

*Extent:* 0 to 100 percent of the map unit

*Landform:* outwash plains, till plains

*Slope shape:* linear down and across the slope

*Slope range:* 5 to 20 percent

*Slope length:* 328 to 13,123 feet (100 to 4,000 m)

*Parent material:* glacial sediments

*Hazard of erosion (organic mat removed):* by water—slight; by wind—moderate

*Runoff:* medium

*Drainage class:* somewhat excessively drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 4.7 inches (12 cm)

*Representative profile:*

C—0 to 60 inches (0 to 152 cm); very gravelly sandy loam, moderate permeability

### ***Urban land***

*Extent:* 0 to 100 percent of the map unit

*Landform:* urban land

*Slope shape:* linear down and across the slope

*Slope range:* 5 to 20 percent

### ***Minor Components***

Icknuun, ponded, and similar soils: 0 to 5 percent of the map unit

Water: 0 to 5 percent of the map unit

### ***Management Considerations***

*Soil-related factors:* slope, large stones, cobbles, high gravel content, high sand content, frost action, and permeability

## **408—Deception-Cryorthents complex, 45 to 90 percent slopes**

*Elevation:* 98 to 1,968 feet (30 to 600 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

**Deception and Similar Soils**

*Extent:* 20 to 65 percent of the map unit

*Landform:* hills

*Slope shape:* convex down and across the slope

*Slope range:* 45 to 60 percent

*Slope length:* 164 to 656 feet (50 to 200 m)

*Parent material:* coarse-silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 6.4 inches (16 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oe—0 to 2 inches (0 to 4 cm); moderately decomposed plant material, moderately rapid permeability

E—2 to 3 inches (4 to 8 cm); silt loam, moderate permeability

Bs1—3 to 6 inches (8 to 15 cm); silt loam, moderate permeability

2Bs2—6 to 14 inches (15 to 36 cm); very gravelly sandy loam, moderate permeability

2C—14 to 60 inches (36 to 152 cm); very gravelly sandy loam, moderate permeability

**Cryorthents, skeletal, and Similar Soils**

*Extent:* 35 to 80 percent of the map unit

*Landform:* escarpments

*Slope shape:* convex down and across the slope

*Slope range:* 45 to 90 percent

*Slope length:* 164 to 656 feet (50 to 200 m)

*Parent material:* glacial sediments

*Hazard of erosion (organic mat removed):* by water—severe; by wind—moderate

*Runoff:* very high

*Drainage class:* somewhat excessively drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 4.9 inches (12 cm)

*Vegetation:* mixed paper birch-white spruce forest

*Representative profile:*

Oi—0 to 1 inch (0 to 2 cm); slightly decomposed plant material, moderately rapid permeability

C—1 to 60 inches (2 to 152 cm); very gravelly sandy loam, moderate permeability

**Management Considerations**

*Soil-related factors:* slope, large stones, cobbles, high gravel content, high sand content, frost action, and permeability

**409—Deception-Disappear complex, undulating and hilly**

*Elevation:* 82 to 820 feet (25 to 250 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

**Deception and Similar Soils**

*Extent:* 65 to 95 percent of the map unit

*Landform:* till plains

*Slope shape:* convex or concave down and across the slope

*Slope range:* 0 to 20 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 6.4 inches (16 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oe—0 to 2 inches (0 to 4 cm); moderately decomposed plant material, moderately rapid permeability

E—2 to 3 inches (4 to 8 cm); silt loam, moderate permeability

Bs1—3 to 6 inches (8 to 15 cm); silt loam, moderate permeability

2Bs2—6 to 14 inches (15 to 36 cm); very gravelly sandy loam, moderate permeability  
 2C—14 to 60 inches (36 to 152 cm); very gravelly sandy loam, moderate permeability

### ***Disappear and Similar Soils***

*Extent:* 5 to 20 percent of the map unit  
*Landform:* depressions on outwash plains  
*Slope shape:* concave down and across the slope  
*Slope range:* 0 to 10 percent  
*Slope length:* 33 to 230 feet (10 to 70 m)  
*Parent material:* coarse-loamy alluvium over gravelly glaciofluvial deposits  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* very high  
*Drainage class:* poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-May—15 inches (38 cm); other months—18 inches (45 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 12.0 inches (31 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest, stunted black spruce woodland and open forest  
*Representative profile:*  
 Oe—0 to 3 inches (0 to 8 cm); mucky peat, moderately rapid permeability  
 Oa—3 to 8 inches (8 to 21 cm); muck, moderate permeability  
 Bw—8 to 14 inches (21 to 35 cm); gravelly sandy loam, moderate permeability  
 2C1—14 to 51 inches (35 to 130 cm); silt loam, moderate permeability  
 2C2—51 to 55 inches (130 to 140 cm); loamy fine sand, moderately rapid permeability  
 3C3—55 to 63 inches (140 to 160 cm); stratified extremely gravelly sandy loam to very gravelly coarse sand to loamy fine sand, moderately rapid permeability  
*Note:* Construction may have altered the water table in some areas.

### ***Minor Components***

Doroshin, ponded, and similar soils: 0 to 10 percent of the map unit  
 Kichatna and similar soils: 2 to 15 percent of the map unit

### ***Management Considerations***

*Soil-related factors:* slope, large stones, cobbles, high gravel content, high sand content, water table, excess organic matter, frost action, and permeability

### **410—Deception-Estelle-Kichatna complex, 0 to 7 percent slopes**

*Elevation:* 66 to 1,312 feet (20 to 400 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### ***Deception and Similar Soils***

*Extent:* 25 to 80 percent of the map unit  
*Landform:* till plains  
*Slope shape:* convex down and across the slope  
*Slope range:* 0 to 7 percent  
*Slope length:* 33 to 230 feet (10 to 70 m)  
*Parent material:* coarse-silty loess over gravelly till  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 6.4 inches (16 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oe—0 to 2 inches (0 to 4 cm); moderately decomposed plant material, moderately rapid permeability  
 E—2 to 3 inches (4 to 8 cm); silt loam, moderate permeability  
 Bs1—3 to 6 inches (8 to 15 cm); silt loam, moderate permeability  
 2Bs2—6 to 14 inches (15 to 36 cm); very gravelly sandy loam, moderate permeability  
 2C—14 to 60 inches (36 to 152 cm); very gravelly sandy loam, moderate permeability

### ***Estelle and Similar Soils***

*Extent:* 15 to 70 percent of the map unit

*Landform:* till plains

*Slope shape:* convex down and across the slope

*Slope range:* 0 to 7 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 9.0 inches (23 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

O<sub>i</sub>—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability

E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

Bs<sub>1</sub>—4 to 18 inches (10 to 46 cm); silt loam, moderate permeability

2Bs<sub>2</sub>—18 to 28 inches (46 to 71 cm); gravelly sandy loam, moderate permeability

2C—28 to 60 inches (71 to 152 cm); very gravelly sandy loam, moderate permeability

### ***Kichatna and Similar Soils***

*Extent:* 5 to 25 percent of the map unit

*Landform:* outwash plains

*Slope shape:* concave downslope; convex across the slope

*Slope range:* 0 to 7 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-silty loess over gravelly outwash

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 5.7 inches (15 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

O<sub>i</sub>—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability

E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

Bs—4 to 11 inches (10 to 28 cm); silt loam, moderate permeability

2BC—11 to 14 inches (28 to 36 cm); very gravelly sandy loam, moderately rapid permeability

2C—14 to 60 inches (36 to 152 cm); very gravelly sand, rapid permeability

### ***Minor Components***

Pioneer Peak and similar soils: 0 to 10 percent of the map unit

Jacobson and similar soils: 0 to 5 percent of the map unit

### ***Management Considerations***

*Soil-related factors:* large stones, cobbles, high gravel content, high sand content, frost action, and permeability

## **411—Deception-Estelle-Kichatna complex, 12 to 20 percent slopes**

*Elevation:* 164 to 1,968 feet (50 to 600 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### ***Deception and Similar Soils***

*Extent:* 25 to 80 percent of the map unit

*Landform:* hills

*Slope shape:* convex down and across the slope

*Slope range:* 12 to 20 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 6.4 inches (16 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oe—0 to 2 inches (0 to 4 cm); moderately decomposed plant material, moderately rapid permeability

E—2 to 3 inches (4 to 8 cm); silt loam, moderate permeability

Bs1—3 to 6 inches (8 to 15 cm); silt loam, moderate permeability

2Bs2—6 to 14 inches (15 to 36 cm); very gravelly sandy loam, moderate permeability

2C—14 to 60 inches (36 to 152 cm); very gravelly sandy loam, moderate permeability

### ***Estelle and Similar Soils***

*Extent:* 15 to 70 percent of the map unit

*Landform:* hills

*Slope shape:* convex down and across the slope

*Slope range:* 12 to 20 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 9.0 inches (23 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability

E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

Bs1—4 to 18 inches (10 to 46 cm); silt loam, moderate permeability

2Bs2—18 to 28 inches (46 to 71 cm); gravelly sandy loam, moderate permeability

2C—28 to 60 inches (71 to 152 cm); very gravelly sandy loam, moderate permeability

### ***Kichatna and Similar Soils***

*Extent:* 5 to 25 percent of the map unit

*Landform:* hills

*Slope shape:* concave downslope; convex across the slope

*Slope range:* 12 to 20 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-silty loess over gravelly outwash

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 5.7 inches (15 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability

E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

Bs—4 to 11 inches (10 to 28 cm); silt loam, moderate permeability

2BC—11 to 14 inches (28 to 36 cm); very gravelly sandy loam, moderately rapid permeability

2C—14 to 60 inches (36 to 152 cm); very gravelly sand, rapid permeability

### ***Minor Components***

Doroshin and similar soils: 0 to 10 percent of the map unit

Pioneer Peak and similar soils: 0 to 5 percent of the map unit

### ***Management Considerations***

*Soil-related factors:* slope, large stones, cobbles, high gravel content, high sand content, frost action, and permeability

## **412—Deception-Estelle-Kichatna complex, 20 to 45 percent slopes**

*Elevation:* 246 to 1,968 feet (75 to 600 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### ***Deception and Similar Soils***

*Extent:* 25 to 80 percent of the map unit

*Landform:* hills

*Slope shape:* convex or concave downslope; convex or concave across the slope

*Slope range:* 20 to 45 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 6.4 inches (16 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oe—0 to 2 inches (0 to 4 cm); moderately decomposed plant material, moderately rapid permeability

E—2 to 3 inches (4 to 8 cm); silt loam, moderate permeability

Bs1—3 to 6 inches (8 to 15 cm); silt loam, moderate permeability

2Bs2—6 to 14 inches (15 to 36 cm); very gravelly sandy loam, moderate permeability

2C—14 to 60 inches (36 to 152 cm); very gravelly sandy loam, moderate permeability

### ***Estelle and Similar Soils***

*Extent:* 15 to 70 percent of the map unit

*Landform:* hills

*Slope shape:* concave or convex downslope; concave or convex across the slope

*Slope range:* 20 to 45 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 9.0 inches (23 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability

E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

Bs1—4 to 18 inches (10 to 46 cm); silt loam, moderate permeability

2Bs2—18 to 28 inches (46 to 71 cm); gravelly sandy loam, moderate permeability

2C—28 to 60 inches (71 to 152 cm); very gravelly sandy loam, moderate permeability

### ***Kichatna and Similar Soils***

*Extent:* 5 to 25 percent of the map unit

*Landform:* hills

*Slope shape:* convex or concave downslope; convex or concave across the slope

*Slope range:* 20 to 45 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-silty loess over gravelly outwash

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 5.7 inches (15 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability

E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

Bs—4 to 11 inches (10 to 28 cm); silt loam, moderate permeability

2BC—11 to 14 inches (28 to 36 cm); very gravelly sandy loam, moderately rapid permeability

2C—14 to 60 inches (36 to 152 cm); very gravelly sand, rapid permeability

### **Minor Components**

Kashwitna and similar soils: 5 to 15 percent of the map unit

#### **Management Considerations**

*Soil-related factors:* slope, large stones, cobbles, high gravel content, high sand content, frost action, and permeability

### **413—Deception-Estelle-Kichatna complex, 45 to 85 percent slopes**

*Elevation:* 246 to 1,968 feet (75 to 600 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

#### **Deception and Similar Soils**

*Extent:* 25 to 80 percent of the map unit

*Landform:* hills

*Slope shape:* convex or concave downslope; convex or concave across the slope

*Slope range:* 45 to 85 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 6.4 inches (16 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oe—0 to 2 inches (0 to 4 cm); moderately decomposed plant material, moderately rapid permeability

E—2 to 3 inches (4 to 8 cm); silt loam, moderate permeability

Bs1—3 to 6 inches (8 to 15 cm); silt loam, moderate permeability

2Bs2—6 to 14 inches (15 to 36 cm); very gravelly sandy loam, moderate permeability

2C—14 to 60 inches (36 to 152 cm); very gravelly sandy loam, moderate permeability

### **Estelle and Similar Soils**

*Extent:* 15 to 70 percent of the map unit

*Landform:* hills

*Slope shape:* concave or convex downslope; concave or convex across the slope

*Slope range:* 45 to 85 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 9.0 inches (23 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability

E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

Bs1—4 to 18 inches (10 to 46 cm); silt loam, moderate permeability

2Bs2—18 to 28 inches (46 to 71 cm); gravelly sandy loam, moderate permeability

2C—28 to 60 inches (71 to 152 cm); very gravelly sandy loam, moderate permeability

#### **Kichatna and Similar Soils**

*Extent:* 5 to 25 percent of the map unit

*Landform:* hills

*Slope shape:* convex or concave downslope; convex or concave across the slope

*Slope range:* 45 to 85 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-silty loess over gravelly outwash

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 5.7 inches (15 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability

E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

Bs—4 to 11 inches (10 to 28 cm); silt loam, moderate permeability

2BC—11 to 14 inches (28 to 36 cm); very gravelly sandy loam, moderately rapid permeability

2C—14 to 60 inches (36 to 152 cm); very gravelly sand, rapid permeability

### **Minor Components**

Kashwitna and similar soils: 5 to 15 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, large stones, cobbles, high gravel content, high sand content, frost action, and permeability

## **414—Deception-Estelle-Kichatna complex, undulating and hilly**

*Elevation:* 164 to 1,476 feet (50 to 450 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### **Deception and Similar Soils**

*Extent:* 25 to 80 percent of the map unit

*Landform:* till plains

*Slope shape:* convex or concave downslope; convex or concave across the slope

*Slope range:* 0 to 15 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 6.4 inches (16 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oe—0 to 2 inches (0 to 4 cm); moderately decomposed plant material, moderately rapid permeability

E—2 to 3 inches (4 to 8 cm); silt loam, moderate permeability

Bs1—3 to 6 inches (8 to 15 cm); silt loam, moderate permeability

2Bs2—6 to 14 inches (15 to 36 cm); very gravelly sandy loam, moderate permeability

2C—14 to 60 inches (36 to 152 cm); very gravelly sandy loam, moderate permeability

### **Estelle and Similar Soils**

*Extent:* 15 to 70 percent of the map unit

*Landform:* till plains

*Slope shape:* convex or concave downslope; concave or convex across the slope

*Slope range:* 0 to 15 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 9.0 inches (23 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability

E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

Bs1—4 to 18 inches (10 to 46 cm); silt loam, moderate permeability

2Bs2—18 to 28 inches (46 to 71 cm); gravelly sandy loam, moderate permeability

2C—28 to 60 inches (71 to 152 cm); very gravelly sandy loam, moderate permeability

### ***Kichatna and Similar Soils***

*Extent:* 5 to 25 percent of the map unit  
*Landform:* outwash plains  
*Slope shape:* concave downslope; convex across the slope  
*Slope range:* 0 to 15 percent  
*Slope length:* 33 to 230 feet (10 to 70 m)  
*Parent material:* coarse-silty loess over gravelly outwash  
*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 5.7 inches (15 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability  
 E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability  
 Bs—4 to 11 inches (10 to 28 cm); silt loam, moderate permeability  
 2BC—11 to 14 inches (28 to 36 cm); very gravelly sandy loam, moderately rapid permeability  
 2C—14 to 60 inches (36 to 152 cm); very gravelly sand, rapid permeability

### ***Minor Components***

Doroshin, ponded, and similar soils: 0 to 10 percent of the map unit  
 Pioneer Peak and similar soils: 0 to 5 percent of the map unit  
 Jacobsen and similar soils: 0 to 5 percent of the map unit

### ***Management Considerations***

*Soil-related factors:* slope, large stones, cobbles, high gravel content, high sand content, frost action, and permeability.

### **415—Deception-Estelle-Kichatna complex, undulating and steep**

*Elevation:* 246 to 1,968 feet (75 to 600 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### ***Deception and Similar Soils***

*Extent:* 25 to 80 percent of the map unit  
*Landform:* hills  
*Slope shape:* convex or concave downslope; concave or convex across the slope  
*Slope range:* 3 to 40 percent  
*Slope length:* 33 to 230 feet (10 to 70 m)  
*Parent material:* coarse-silty loess over gravelly till  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 6.4 inches (16 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oe—0 to 2 inches (0 to 4 cm); moderately decomposed plant material, moderately rapid permeability  
 E—2 to 3 inches (4 to 8 cm); silt loam, moderate permeability  
 Bs1—3 to 6 inches (8 to 15 cm); silt loam, moderate permeability  
 2Bs2—6 to 14 inches (15 to 36 cm); very gravelly sandy loam, moderate permeability  
 2C—14 to 60 inches (36 to 152 cm); very gravelly sandy loam, moderate permeability

### ***Estelle and Similar Soils***

*Extent:* 15 to 70 percent of the map unit  
*Landform:* hills  
*Slope shape:* convex or concave downslope; concave or convex across the slope  
*Slope range:* 3 to 40 percent  
*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-silty loess over gravelly till  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 9.0 inches (23 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability  
 E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability  
 Bs1—4 to 18 inches (10 to 46 cm); silt loam, moderate permeability  
 2Bs2—18 to 28 inches (46 to 71 cm); gravelly sandy loam, moderate permeability  
 2C—28 to 60 inches (71 to 152 cm); very gravelly sandy loam, moderate permeability

### ***Kichatna and Similar Soils***

*Extent:* 5 to 25 percent of the map unit  
*Landform:* hills  
*Slope shape:* convex or concave downslope; concave or convex across the slope  
*Slope range:* 3 to 40 percent  
*Slope length:* 33 to 230 feet (10 to 70 m)  
*Parent material:* coarse-silty loess over gravelly outwash  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 5.7 inches (15 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability

E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability  
 Bs—4 to 11 inches (10 to 28 cm); silt loam, moderate permeability  
 2BC—11 to 14 inches (28 to 36 cm); very gravelly sandy loam, moderately rapid permeability  
 2C—14 to 60 inches (36 to 152 cm); very gravelly sand, rapid permeability

### ***Minor Components***

Doroshin, ponded, and similar soils: 0 to 10 percent of the map unit  
 Pioneer Peak and similar soils: 0 to 5 percent of the map unit

### ***Management Considerations***

*Soil-related factors:* slope, large stones, cobbles, high gravel content, high sand content, frost action, and permeability

### **416—Disappear-Pioneer Peak complex, 0 to 7 percent slopes**

*Elevation:* 33 to 820 feet (10 to 250 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### ***Disappear and Similar Soils***

*Extent:* 40 to 80 percent of the map unit  
*Landform:* depressions on outwash plains  
*Slope shape:* concave down and across the slope  
*Slope range:* 0 to 7 percent  
*Slope length:* 33 to 230 feet (10 to 70 m)  
*Parent material:* coarse-loamy alluvium over gravelly glaciofluvial deposits  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* very high  
*Drainage class:* poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April-May—15 inches (38 cm); other months—18 inches (45 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 12.0 inches (31 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest, stunted black spruce woodland and open forest

*Representative profile:*

- Oe—0 to 3 inches (0 to 8 cm); mucky peat, moderately rapid permeability
- Oa—3 to 8 inches (8 to 21 cm); muck, moderate permeability
- Bw—8 to 14 inches (21 to 35 cm); gravelly sandy loam, moderate permeability
- 2C1—14 to 51 inches (35 to 130 cm); silt loam, moderate permeability
- 2C2—51 to 55 inches (130 to 140 cm); loamy fine sand, moderately rapid permeability
- 3C3—55 to 63 inches (140 to 160 cm); stratified extremely gravelly sandy loam to very gravelly coarse sand to loamy fine sand, moderately rapid permeability

*Note:* Construction may have altered the water table in some areas.

### ***Pioneer Peak and Similar Soils***

*Extent:* 15 to 40 percent of the map unit

*Landform:* depressions on till plains

*Slope shape:* concave down and across the slope

*Slope range:* 0 to 7 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* eolian deposits over gravelly glacial drift

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* medium

*Drainage class:* somewhat poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—24 inches (61 cm); other months—30 inches (76 cm)

*Ponding:* none

*Available water capacity (approximate):* 12.7 inches (32 cm)

*Vegetation:* mixed paper birch-white spruce forest, mixed paper birch-quaking aspen forest

*Representative profile:*

- Oa—0 to 3 inches (0 to 8 cm); highly decomposed plant material, moderately rapid permeability
- E/B—3 to 5 inches (8 to 13 cm); silt loam, moderate permeability
- Bs—5 to 10 inches (13 to 25 cm); silt loam, moderate permeability
- Eb/Bsb—10 to 25 inches (25 to 63 cm); silt loam, moderate permeability

2BC—25 to 37 inches (63 to 95 cm); gravelly loam, moderately rapid permeability

2C—37 to 60 inches (95 to 152 cm); very gravelly sandy loam, rapid permeability

*Note:* Construction may have altered the water table in some areas.

### ***Minor Components***

Jacobsen and similar soils: 5 to 15 percent of the map unit

### ***Management Considerations***

*Soil-related factors:* slope, water table, excess organic matter, high gravel content, high sand content, frost action, and permeability

### **417—Doroshin peat, 0 to 7 percent slopes**

*Elevation:* 33 to 1,312 feet (10 to 400 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### ***Doroshin and Similar Soils***

*Extent:* 80 to 100 percent of the map unit

*Landform:* depressions on outwash plains

*Slope shape:* concave down and across the slope

*Slope range:* 0 to 7 percent

*Slope length:* 33 to 164 feet (10 to 50 m)

*Parent material:* organic material over loamy and gravelly sediments

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* 0 inches (0 cm)

*Ponding:* Frequent

*Available water capacity (approximate):* 16.4 inches (42 cm)

*Vegetation:* stunted black spruce woodland and open forest, mixed paper birch-spruce forest, bluejoint reedgrass meadow

*Representative profile:*

- Oe—0 to 43 inches (0 to 109 cm); mucky peat, moderately rapid permeability

2Cg—43 to 60 inches (109 to 152 cm); gravelly loamy sand, moderately rapid permeability  
*Note:* Construction may have altered the water table in some areas.

### **Minor Components**

Water: 5 to 20 percent of the map unit  
 Icknuun and similar soils: 0 to 10 percent of the map unit

### **Management Considerations**

*Soil-related factors:* water table, excess organic matter, ponding, and permeability

## **418—Dumps, landfill**

*Elevation:* 180 to 541 feet (55 to 165 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### **Dumps, landfill**

*Extent:* 100 percent of the map unit  
*Landform:* outwash plains, till plains  
*Slope shape:* linear down and across the slope  
*Slope range:* 5 to 45 percent

## **419—Eklutna very cobbly sand, 0 to 3 percent slopes**

*Elevation:* 16 to 1,148 feet (5 to 350 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### **Eklutna and Similar Soils**

*Extent:* 95 to 100 percent of the map unit  
*Landform:* alluvial fans, terraces  
*Slope shape:* linear down and across the slope  
*Slope range:* 0 to 3 percent  
*Slope length:* 164 to 656 feet (50 to 200 m)  
*Parent material:* gravelly alluvium  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* very low  
*Drainage class:* excessively drained

*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 2.4 inches (6 cm)  
*Vegetation:* mixed balsam poplar-white spruce forest, balsam poplar forest, paper birch forest  
*Representative profile:*  
 Oe—0 to 2 inches (0 to 5 cm); moderately decomposed plant material, moderately rapid permeability  
 C—2 to 60 inches (5 to 152 cm); very gravelly sand, rapid permeability

### **Minor Components**

Cryorthents, skeletal, and similar soils: 0 to 5 percent of the map unit

### **Management Considerations**

*Soil-related factors:* high gravel content, high sand content, and permeability

## **420—Haplocryods, 20 to 50 percent slopes**

*Elevation:* 82 to 328 feet (25 to 100 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### **Haplocryods and Similar Soils**

*Extent:* 90 to 100 percent of the map unit  
*Landform:* hills  
*Slope shape:* linear down and across the slope  
*Slope range:* 20 to 50 percent  
*Slope length:* 98 to 400 feet (30 to 122 m)  
*Parent material:* ash influenced loess  
*Depth to bedrock (lithic):* 10 to 40 inches (25 to 102 cm)  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* very high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none

*Available water capacity (approximate):* 8.1 inches (21 cm)

*Vegetation:* mixed paper birch-white spruce forest, mixed paper birch-quaking aspen forest, mixed balsam poplar-white spruce forest

*Representative profile:*

Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability

E—3 to 5 inches (8 to 13 cm); silt loam, moderate permeability

Bs1—5 to 8 inches (13 to 20 cm); silt loam, moderate permeability

2Bs2—8 to 24 inches (20 to 61 cm); stony silt loam, moderate permeability

2R—24 inches (61 cm); weathered bedrock, impermeable

### **Minor Components**

Rock outcrop: 0 to 10 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, large stones, frost action, and permeability

## **421—Histic Cryaquepts, 0 to 15 percent slopes**

*Elevation:* 1,312 to 2,953 feet (400 to 900 m)

*Mean annual precipitation:* 30 to 50 inches (76 to 127 cm)

*Frost-free period:* 65 to 107 days

### **Histic Cryaquepts and Similar Soils**

*Extent:* 80 to 100 percent of the map unit

*Landform:* depressions on stream terraces

*Slope shape:* concave down and across the slope

*Slope range:* 0 to 15 percent

*Slope length:* 16 to 164 feet (5 to 50 m)

*Parent material:* silty alluvium over gravelly till

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* medium

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April–May—15 inches (38 cm); other months—18 inches (45 cm)

*Ponding:* none

*Available water capacity (approximate):* 12.5 inches (32 cm)

*Vegetation:* low ericaceous shrub-shrub birch scrub, sedge-grass meadow, low willow scrub

*Representative profile:*

Oe—0 to 9 inches (0 to 23 cm); mucky peat, moderately rapid permeability

A—9 to 20 inches (23 to 51 cm); silt loam, moderate permeability

Bg—20 to 35 inches (51 to 89 cm); gravelly silt loam, moderate permeability

2Cg—35 to 60 inches (89 to 152 cm); very gravelly sandy loam, moderately rapid permeability

### **Minor Components**

Chugach and similar soils: 0 to 20 percent of the map unit

Talkeetna and similar soils: 0 to 20 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, water table, excess organic matter, frost action, and permeability

## **422—Histic Cryaquepts-Hurdygurdy association, 3 to 25 percent slopes**

*Elevation:* 1,640 to 3,281 feet (500 to 1,000 m)

*Mean annual precipitation:* 30 to 50 inches (76 to 127 cm)

*Frost-free period:* 65 to 107 days

### **Histic Cryaquepts and Similar Soils**

*Extent:* 40 to 70 percent of the map unit

*Landform:* depressions on mountains

*Slope shape:* concave down and across the slope

*Slope range:* 3 to 25 percent

*Slope length:* 16 to 164 feet (5 to 50 m)

*Parent material:* silty alluvium over gravelly till

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* medium

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April–May—15 inches (38 cm); other months—18 inches (45 cm)

*Ponding:* none

*Available water capacity (approximate):* 12.5 inches (32 cm)

*Vegetation:* low ericaceous shrub-shrub birch scrub, sedge-grass meadow, low willow scrub

*Representative profile:*

Oe—0 to 9 inches (0 to 23 cm); mucky peat, moderately rapid permeability

A—9 to 20 inches (23 to 51 cm); silt loam, moderate permeability

Bg—20 to 35 inches (51 to 89 cm); gravelly silt loam, moderate permeability

2Cg—35 to 60 inches (89 to 152 cm); very gravelly sandy loam, moderately rapid permeability

### **Hurdygurdy and Similar Soils**

*Extent:* 25 to 50 percent of the map unit

*Landform:* mountains

*Slope shape:* convex or concave downslope; convex or concave across the slope

*Slope range:* 5 to 25 percent

*Slope length:* 16 to 1,640 feet (5 to 500 m)

*Parent material:* silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 10.2 inches (26 cm)

*Vegetation:* dwarf ericaceous shrub scrub, low willow scrub, bluejoint reedgrass grassland

*Representative profile:*

Oe—0 to 5 inches (0 to 13 cm); moderately decomposed plant material, rapid permeability

E—5 to 8 inches (13 to 20 cm); silt loam, moderate permeability

Bhs—8 to 18 inches (20 to 46 cm); silt loam, moderate permeability

2C—18 to 60 inches (46 to 152 cm); very gravelly sandy loam, moderate permeability

### **Minor Components**

Chugach and similar soils: 5 to 15 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, water table, excess organic matter, cobbles, high gravel content, frost action, and permeability

### **423—Hurdygurdy-Siwash-Rock outcrop association, 10 to 70 percent slopes**

*Elevation:* 1,804 to 4,429 feet (550 to 1,350 m)

*Mean annual precipitation:* 30 to 50 inches (76 to 127 cm)

*Frost-free period:* 65 to 107 days

### **Hurdygurdy and Similar Soils**

*Extent:* 60 to 90 percent of the map unit

*Landform:* mountains

*Slope shape:* concave or convex downslope; concave or convex across the slope

*Slope range:* 10 to 70 percent

*Slope length:* 16 to 1,640 feet (5 to 500 m)

*Parent material:* silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 10.2 inches (26 cm)

*Vegetation:* dwarf ericaceous shrub scrub, low willow scrub, bluejoint reedgrass grassland

*Representative profile:*

Oe—0 to 5 inches (0 to 13 cm); moderately decomposed plant material, rapid permeability

E—5 to 8 inches (13 to 20 cm); silt loam, moderate permeability

Bhs—8 to 18 inches (20 to 46 cm); silt loam, moderate permeability

2C—18 to 60 inches (46 to 152 cm); very gravelly sandy loam, moderate permeability

### **Siwash and Similar Soils**

*Extent:* 5 to 25 percent of the map unit

*Landform:* mountains

*Slope shape:* concave or convex downslope; concave or convex across the slope

*Slope range:* 10 to 70 percent

*Slope length:* 16 to 1,640 feet (5 to 500 m)  
*Parent material:* ash influenced loess over glacial till underlain by igneous and metamorphic bedrock  
*Depth to bedrock (lithic):* 16 to 26 inches (40 to 66 cm)  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* very high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 5.8 inches (15 cm)  
*Vegetation:* dwarf ericaceous shrub-shrub birch scrub, dwarf shrub-lichen scrub  
*Representative profile:*  
 Oi—0 to 4 inches (0 to 10 cm); slightly decomposed plant material, moderately rapid permeability  
 E—4 to 5 inches (10 to 13 cm); silt loam, moderate permeability  
 Bhs—5 to 14 inches (13 to 36 cm); silt loam, moderate permeability  
 2BC—14 to 21 inches (36 to 53 cm); very cobbly sandy loam, moderate permeability  
 3R—21 inches (53 cm); bedrock, impermeable

### **Rock outcrop**

*Extent:* 1 to 20 percent of the map unit  
*Landform:* mountains  
*Slope shape:* linear or convex downslope; linear or convex across the slope  
*Slope range:* 10 to 70 percent  
*Note:* Rock outcrop consists of exposures of bare bedrock, other than lava flows and rock-lined pits.

### **Minor Components**

Histic Cryaquepts and similar soils: 0 to 20 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, cobble, high gravel content, frost action, and permeability

### **424—Icknuun peat, 0 to 3 percent slopes**

*Elevation:* 33 to 984 feet (10 to 300 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### **Icknuun, ponded, and Similar Soils**

*Extent:* 80 to 100 percent of the map unit  
*Landform:* depressions on till plains  
*Slope shape:* concave down and across the slope  
*Slope range:* 0 to 3 percent  
*Slope length:* 33 to 164 feet (10 to 50 m)  
*Parent material:* organic material  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* very high  
*Drainage class:* very poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* 0 inches (0 cm)  
*Ponding:* frequent  
*Available water capacity (approximate):* 18.9 inches (48 cm)  
*Vegetation:* low ericaceous shrub-shrub birch scrub, stunted black spruce woodland and open forest, sedge-grass meadow  
*Representative profile:*  
 Oe—0 to 10 inches (0 to 25 cm); mucky peat, moderately rapid permeability  
 Ag—10 to 14 inches (25 to 36 cm); silt loam, moderately rapid permeability  
 Oe'—14 to 60 inches (36 to 152 cm); mucky peat, moderately rapid permeability  
*Note:* Construction may have altered the water table in some areas.

### **Minor Components**

Water: 0 to 20 percent of the map unit  
 Doroshin, ponded, and similar soils: 0 to 10 percent of the map unit

### **Management Considerations**

*Soil-related factors:* ponding, water table, excess organic matter, and permeability

### **425—Jacobsen-Disappear-Doroshin complex, 0 to 3 percent slopes**

*Elevation:* 33 to 1,312 feet (10 to 400 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### **Jacobsen and Similar Soils**

*Extent:* 30 to 50 percent of the map unit

*Landform:* depressions on drainageways

*Slope shape:* concave down and across the slope

*Slope range:* 0 to 3 percent

*Slope length:* 33 to 131 feet (10 to 40 m)

*Parent material:* alluvium overlying gravelly glacial drift

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—6 inches (15 cm); other months—12 inches (30 cm)

*Ponding:* none

*Available water capacity (approximate):* 5.6 inches (14 cm)

*Vegetation:* mixed paper birch-white spruce forest, stunted black spruce woodland and open forest

*Representative profile:*

Oa—0 to 8 inches (0 to 20 cm); muck, moderate permeability

Ag—8 to 11 inches (20 to 28 cm); gravelly silt loam, moderate permeability

2Cg1—11 to 14 inches (28 to 36 cm); very gravelly loamy sand, moderately rapid permeability

2Cg2—14 to 60 inches (36 to 152 cm); very gravelly sandy loam, moderately rapid permeability

*Note:* Construction may have altered the water table in some areas.

### **Disappear and Similar Soils**

*Extent:* 25 to 50 percent of the map unit

*Landform:* depressions on drainageways

*Slope shape:* concave down and across the slope

*Slope range:* 0 to 3 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-loamy alluvium over gravelly glaciofluvial deposits

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—15 inches (38 cm); other months—18 inches (45 cm)

*Ponding:* none

*Available water capacity (approximate):* 12.0 inches (31 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest, stunted black spruce woodland and open forest

*Representative profile:*

Oe—0 to 3 inches (0 to 8 cm); mucky peat, moderately rapid permeability

Oa—3 to 8 inches (8 to 21 cm); muck, moderate permeability

Bw—8 to 14 inches (21 to 35 cm); gravelly sandy loam, moderate permeability

2C1—14 to 51 inches (35 to 130 cm); silt loam, moderate permeability

2C2—51 to 55 inches (130 to 140 cm); loamy fine sand, moderately rapid permeability

3C3—55 to 63 inches (140 to 160 cm); stratified extremely gravelly sandy loam to very gravelly coarse sand to loamy fine sand, moderately rapid permeability

*Note:* Construction may have altered the water table in some areas.

### **Doroshin, ponded, and Similar Soils**

*Extent:* 15 to 60 percent of the map unit

*Landform:* depressions on drainageways

*Slope shape:* concave down and across the slope

*Slope range:* 0 to 2 percent

*Slope length:* 33 to 131 feet (10 to 40 m)

*Parent material:* organic material over loamy and gravelly sediments

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* 0 inches (0 cm)

*Ponding:* frequent

*Available water capacity (approximate):* 16.4 inches (42 cm)

*Vegetation:* stunted black spruce woodland and open forest, mixed paper birch-white spruce forest, bluejoint reedgrass meadow

*Representative profile:*

Oe—0 to 43 inches (0 to 109 cm); mucky peat, moderately rapid permeability

2Cg—43 to 60 inches (109 to 152 cm); gravelly loamy sand, moderately rapid permeability

*Note:* Construction may have altered the water table in some areas.

### **Minor Components**

Clam Gulch and similar soils: 0 to 20 percent of the map unit

Pioneer Peak and similar soils: 0 to 10 percent of the map unit

### **Management Considerations**

*Soil-related factors:* ponding, water table, excess organic matter, high gravel content, high sand content, frost action, dense layer and permeability

## **426—Jacobsen-Disappear-Doroshin complex, 3 to 7 percent slopes**

*Elevation:* 164 to 1,312 feet (50 to 400 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### **Jacobsen and Similar Soils**

*Extent:* 30 to 50 percent of the map unit

*Landform:* depressions on drainageways

*Slope shape:* concave down and across the slope

*Slope range:* 3 to 7 percent

*Slope length:* 33 to 131 feet (10 to 40 m)

*Parent material:* alluvium overlying gravelly glacial drift

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—6 inches (15 cm); other months—12 inches (30 cm)

*Ponding:* none

*Available water capacity (approximate):* 5.6 inches (14 cm)

*Vegetation:* mixed paper birch-white spruce forest, stunted black spruce woodland and open forest

*Representative profile:*

Oa—0 to 8 inches (0 to 20 cm); muck, moderate permeability

Ag—8 to 11 inches (20 to 28 cm); gravelly silt loam, moderate permeability

2Cg1—11 to 14 inches (28 to 36 cm); very gravelly loamy sand, moderately rapid permeability

2Cg2—14 to 60 inches (36 to 152 cm); very gravelly sandy loam, moderately rapid permeability

*Note:* Construction may have altered the water table in some areas.

### **Disappear and Similar Soils**

*Extent:* 25 to 50 percent of the map unit

*Landform:* depressions on drainageways

*Slope shape:* concave down and across the slope

*Slope range:* 3 to 5 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-loamy alluvium over gravelly glaciofluvial deposits

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—15 inches (38 cm); other months—18 inches (45 cm)

*Ponding:* none

*Available water capacity (approximate):* 12.0 inches (31 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest, stunted black spruce woodland and open forest

*Representative profile:*

Oe—0 to 3 inches (0 to 8 cm); mucky peat, moderately rapid permeability

Oa—3 to 8 inches (8 to 21 cm); muck, moderate permeability

Bw—8 to 14 inches (21 to 35 cm); gravelly sandy loam, moderate permeability

2C1—14 to 51 inches (35 to 130 cm); silt loam, moderate permeability

2C2—51 to 55 inches (130 to 140 cm); loamy fine sand, moderately rapid permeability

3C3—55 to 63 inches (140 to 160 cm); stratified extremely gravelly sandy loam to very gravelly

coarse sand to loamy fine sand, moderately rapid permeability

*Note:* Construction may have altered the water table in some areas.

### ***Doroshin and Similar Soils***

*Extent:* 20 to 60 percent of the map unit

*Landform:* depressions on drainageways

*Slope shape:* concave down and across the slope

*Slope range:* 3 to 7 percent

*Slope length:* 33 to 131 feet (10 to 40 m)

*Parent material:* organic material over loamy and gravelly sediments

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* 0 inches (0 cm)

*Ponding:* none

*Available water capacity (approximate):* 16.4 inches (42 cm)

*Vegetation:* stunted black spruce woodland and open forest, mixed paper birch-white spruce forest, bluejoint reedgrass meadow

*Representative profile:*

Oe—0 to 43 inches (0 to 109 cm); mucky peat, moderately rapid permeability

2Cg—43 to 60 inches (109 to 152 cm); gravelly loamy sand, moderately rapid permeability

*Note:* Construction may have altered the water table in some areas.

### ***Minor Components***

Pioneer Peak and similar soils: 0 to 15 percent of the map unit

### ***Management Considerations***

*Soil-related factors:* ponding, water table, excess organic matter, slope, high gravel content, high sand content, frost action, and permeability

### **427—Jacobsen-Disappear-Doroshin complex, 7 to 12 percent slopes**

*Elevation:* 82 to 1,312 feet (25 to 400 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### ***Jacobsen and Similar Soils***

*Extent:* 30 to 50 percent of the map unit

*Landform:* depressions on drainageways

*Slope shape:* concave down and across the slope

*Slope range:* 7 to 12 percent

*Slope length:* 33 to 131 feet (10 to 40 m)

*Parent material:* alluvium overlying gravelly glacial drift

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* very high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—6 inches (15 cm); other months—12 inches (30 cm)

*Ponding:* none

*Available water capacity (approximate):* 5.6 inches (14 cm)

*Vegetation:* mixed paper birch-white spruce forest, stunted black spruce woodland and open forest

*Representative profile:*

Oa—0 to 8 inches (0 to 20 cm); muck, moderate permeability

Ag—8 to 11 inches (20 to 28 cm); gravelly silt loam, moderate permeability

2Cg1—11 to 14 inches (28 to 36 cm); very gravelly loamy sand, moderately rapid permeability

2Cg2—14 to 60 inches (36 to 152 cm); very gravelly sandy loam, moderately rapid permeability

*Note:* Construction may have altered the water table in some areas.

### ***Disappear and Similar Soils***

*Extent:* 25 to 50 percent of the map unit

*Landform:* depressions on drainageways

*Slope shape:* concave down and across the slope

*Slope range:* 7 to 12 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-loamy alluvium over gravelly glaciofluvial deposits

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* very high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—15 inches (38 cm); other months—18 inches (45 cm)

*Ponding:* none

*Available water capacity (approximate):* 12.0 inches (31 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest, stunted black spruce woodland and open forest

*Representative profile:*

Oe—0 to 3 inches (0 to 8 cm); mucky peat, moderately rapid permeability

Oa—3 to 8 inches (8 to 21 cm); muck, moderate permeability

Bw—8 to 14 inches (21 to 35 cm); gravelly sandy loam, moderate permeability

2C1—14 to 51 inches (35 to 130 cm); silt loam, moderate permeability

2C2—51 to 55 inches (130 to 140 cm); loamy fine sand, moderately rapid permeability

3C3—55 to 63 inches (140 to 160 cm); stratified extremely gravelly sandy loam to very gravelly coarse sand to loamy fine sand, moderately rapid permeability

*Note:* Construction may have altered the water table in some areas.

### **Doroshin and Similar Soils**

*Extent:* 20 to 60 percent of the map unit

*Landform:* depressions on drainageways

*Slope shape:* concave down and across the slope

*Slope range:* 5 to 10 percent

*Slope length:* 33 to 131 feet (10 to 40 m)

*Parent material:* organic material over loamy and gravelly sediments

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* 0 inches (0 cm)

*Ponding:* none

*Available water capacity (approximate):* 16.4 inches (42 cm)

*Vegetation:* stunted black spruce woodland and open forest, mixed paper birch-white spruce forest, bluejoint reedgrass meadow

*Representative profile:*

Oe—0 to 43 inches (0 to 109 cm); mucky peat, moderately rapid permeability

2Cg—43 to 60 inches (109 to 152 cm); gravelly loamy sand, moderately rapid permeability

*Note:* Construction may have altered the water table in some areas.

### **Minor Components**

Pioneer Peak and similar soils: 0 to 15 percent of the map unit

### **Management Considerations**

*Soil-related factors:* ponding, water table, excess organic matter, slope, high gravel content, high sand content, frost action, and permeability

## **428—Kashwitna-Kichatna complex, 0 to 3 percent slopes**

*Elevation:* 82 to 1,476 feet (25 to 450 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### **Kashwitna and Similar Soils**

*Extent:* 25 to 75 percent of the map unit

*Landform:* outwash plains

*Slope shape:* convex down and across the slope

*Slope range:* 0 to 3 percent

*Slope length:* 33 to 492 feet (10 to 150 m)

*Parent material:* coarse-silty loess over gravelly outwash

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 7.3 inches (18 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability

E—3 to 5 inches (8 to 13 cm); silt loam, moderate permeability

Bs—5 to 16 inches (13 to 41 cm); silt loam, moderate permeability  
 2BC—16 to 18 inches (41 to 46 cm); gravelly sandy loam, moderately rapid permeability  
 2C—18 to 60 inches (46 to 152 cm); very gravelly sand, rapid permeability

### ***Kichatna and Similar Soils***

*Extent:* 25 to 75 percent of the map unit  
*Landform:* outwash plains  
*Slope shape:* convex down and across the slope  
*Slope range:* 0 to 3 percent  
*Slope length:* 33 to 492 feet (10 to 150 m)  
*Parent material:* coarse-silty loess over gravelly outwash  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe  
*Runoff:* low  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 5.7 inches (15 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability  
 E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability  
 Bs—4 to 11 inches (10 to 28 cm); silt loam, moderate permeability  
 2BC—11 to 14 inches (28 to 36 cm); very gravelly sandy loam, moderately rapid permeability  
 2C—14 to 60 inches (36 to 152 cm); very gravelly sand, rapid permeability

### ***Minor Components***

Deception and similar soils: 0 to 20 percent of the map unit  
 Pioneer Peak and similar soils: 0 to 5 percent of the map unit  
 Doroshin, ponded, and similar soils: 0 to 5 percent of the map unit

### ***Management Considerations***

*Soil-related factors:* cobbles, high gravel content, high sand content, frost action, and permeability

### **429—Kashwitna-Kichatna complex, 12 to 20 percent slopes**

*Elevation:* 246 to 1,968 feet (75 to 600 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### ***Kashwitna and Similar Soils***

*Extent:* 30 to 90 percent of the map unit  
*Landform:* hills  
*Slope shape:* convex down and across the slope  
*Slope range:* 12 to 20 percent  
*Slope length:* 33 to 492 feet (10 to 150 m)  
*Parent material:* coarse-silty loess over gravelly outwash  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 7.3 inches (18 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability  
 E—3 to 5 inches (8 to 13 cm); silt loam, moderate permeability  
 Bs—5 to 16 inches (13 to 41 cm); silt loam, moderate permeability  
 2BC—16 to 18 inches (41 to 46 cm); gravelly sandy loam, moderately rapid permeability  
 2C—18 to 60 inches (46 to 152 cm); very gravelly sand, rapid permeability

### ***Kichatna and Similar Soils***

*Extent:* 10 to 70 percent of the map unit

*Landform:* hills  
*Slope shape:* convex down and across the slope  
*Slope range:* 12 to 20 percent  
*Slope length:* 33 to 492 feet (10 to 150 m)  
*Parent material:* coarse-silty loess over gravelly outwash  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 5.7 inches (15 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability  
 E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability  
 Bs—4 to 11 inches (10 to 28 cm); silt loam, moderate permeability  
 2BC—11 to 14 inches (28 to 36 cm); very gravelly sandy loam, moderately rapid permeability  
 2C—14 to 60 inches (36 to 152 cm); very gravelly sand, rapid permeability

### **Minor Components**

Estelle and similar soils: 0 to 15 percent of the map unit  
 Deception and similar soils: 0 to 10 percent of the map unit  
 Jacobsen and similar soils: 0 to 5 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, cobbles, high gravel content, high sand content, frost action, and permeability

## **430—Kashwitna-Kichatna complex, 30 to 85 percent slopes**

*Elevation:* 246 to 1,968 feet (75 to 600 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### **Kashwitna and Similar Soils**

*Extent:* 20 to 90 percent of the map unit  
*Landform:* hills  
*Slope shape:* convex down and across the slope  
*Slope range:* 30 to 85 percent  
*Slope length:* 33 to 492 feet (10 to 150 m)  
*Parent material:* coarse-silty loess over gravelly outwash  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* very high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 7.3 inches (18 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability  
 E—3 to 5 inches (8 to 13 cm); silt loam, moderate permeability  
 Bs—5 to 16 inches (13 to 41 cm); silt loam, moderate permeability  
 2BC—16 to 18 inches (41 to 46 cm); gravelly sandy loam, moderately rapid permeability  
 2C—18 to 60 inches (46 to 152 cm); very gravelly sand, rapid permeability

### **Kichatna and Similar Soils**

*Extent:* 10 to 80 percent of the map unit  
*Landform:* hills  
*Slope shape:* convex down and across the slope  
*Slope range:* 30 to 85 percent  
*Slope length:* 33 to 492 feet (10 to 150 m)  
*Parent material:* coarse-silty loess over gravelly outwash  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* very high  
*Drainage class:* well drained  
*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 5.7 inches (15 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability

E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

Bs—4 to 11 inches (10 to 28 cm); silt loam, moderate permeability

2BC—11 to 14 inches (28 to 36 cm); very gravelly sandy loam, moderately rapid permeability

2C—14 to 60 inches (36 to 152 cm); very gravelly sand, rapid permeability

### **Minor Components**

Jacobsen and similar soils: 0 to 10 percent of the map unit

Pioneer Peak and similar soils: 0 to 10 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, cobbles, high gravel content, high sand content, frost action, and permeability

## **431—Kashwitna-Kichatna complex, undulating**

*Elevation:* 82 to 1,476 feet (25 to 450 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### **Kashwitna and Similar Soils**

*Extent:* 25 to 75 percent of the map unit

*Landform:* outwash plains

*Slope shape:* convex down and across the slope

*Slope range:* 0 to 3 percent

*Slope length:* 33 to 492 feet (10 to 150 m)

*Parent material:* coarse-silty loess over gravelly outwash

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 7.3 inches (18 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability

E—3 to 5 inches (8 to 13 cm); silt loam, moderate permeability

Bs—5 to 16 inches (13 to 41 cm); silt loam, moderate permeability

2BC—16 to 18 inches (41 to 46 cm); gravelly sandy loam, moderately rapid permeability

2C—18 to 60 inches (46 to 152 cm); very gravelly sand, rapid permeability

### **Kichatna and Similar Soils**

*Extent:* 25 to 75 percent of the map unit

*Landform:* outwash plains

*Slope shape:* convex down and across the slope

*Slope range:* 0 to 7 percent

*Slope length:* 33 to 492 feet (10 to 150 m)

*Parent material:* coarse-silty loess over gravelly outwash

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 5.7 inches (15 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability

E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

- Bs—4 to 11 inches (10 to 28 cm); silt loam, moderate permeability  
 2BC—11 to 14 inches (28 to 36 cm); very gravelly sandy loam, moderately rapid permeability  
 2C—14 to 60 inches (36 to 152 cm); very gravelly sand, rapid permeability

### **Minor Components**

- Deception and similar soils: 0 to 20 percent of the map unit  
 Doroshin, ponded, and similar soils: 0 to 10 percent of the map unit  
 Jacobsen and similar soils: 0 to 10 percent of the map unit

### **Management Considerations**

- Soil-related factors:* slope, cobbles, high gravel content, high sand content, frost action, and permeability

## **432—Kashwitna-Kichatna complex, undulating and hilly**

- Elevation:* 164 to 1,476 feet (50 to 450 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### **Kashwitna and Similar Soils**

- Extent:* 50 to 90 percent of the map unit  
*Landform:* outwash plains  
*Slope shape:* convex down and across the slope  
*Slope range:* 0 to 15 percent  
*Slope length:* 33 to 492 feet (10 to 150 m)  
*Parent material:* coarse-silty loess over gravelly outwash  
*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 7.3 inches (18 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

### *Representative profile:*

- Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability  
 E—3 to 5 inches (8 to 13 cm); silt loam, moderate permeability  
 Bs—5 to 16 inches (13 to 41 cm); silt loam, moderate permeability  
 2BC—16 to 18 inches (41 to 46 cm); gravelly sandy loam, moderately rapid permeability  
 2C—18 to 60 inches (46 to 152 cm); very gravelly sand, rapid permeability

### **Kichatna and Similar Soils**

- Extent:* 10 to 50 percent of the map unit  
*Landform:* outwash plains  
*Slope shape:* convex down and across the slope  
*Slope range:* 0 to 15 percent  
*Slope length:* 33 to 492 feet (10 to 150 m)  
*Parent material:* coarse-silty loess over gravelly outwash  
*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 5.7 inches (15 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability  
 E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability  
 Bs—4 to 11 inches (10 to 28 cm); silt loam, moderate permeability  
 2BC—11 to 14 inches (28 to 36 cm); very gravelly sandy loam, moderately rapid permeability  
 2C—14 to 60 inches (36 to 152 cm); very gravelly sand, rapid permeability

### **Minor Components**

- Jacobsen and similar soils: 0 to 5 percent of the map unit



**Figure 1. Map Unit 424—Iknuun peat, 0 to 3 percent slopes in the foreground.**



**Figure 2. Map Unit 439—Nakochna-Rock outcrop association, 20 to 85 percent slopes.**



**Figure 3. Map unit 438—Moose River-Niklason complex, frequently flooded, 0 to 3 percent slopes.**



**Figure 4. In the foreground Map Unit 404—Cryosaprist, 0 to 1 percent slopes. In the near background Map Unit 420—Haplocryods, 20 to 50 percent slopes.**



**Figure 5. Map Unit 464—Whitsol silt loam, 0 to 3 percent slopes.**



**Figure 6. Map Unit 401—Andic Humicryods-Rock outcrop association, 25 to 85 percent slope.**

Doroshin, ponded, and similar soils: 0 to 5 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, cobbles, high gravel content, high sand content, frost action, and permeability

### **433—Kashwitna-Kichatna complex, undulating and steep**

*Elevation:* 246 to 1,968 feet (75 to 600 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### **Kashwitna and Similar Soils**

*Extent:* 40 to 70 percent of the map unit  
*Landform:* hills  
*Slope shape:* convex down and across the slope  
*Slope range:* 3 to 40 percent  
*Slope length:* 33 to 230 feet (10 to 70 m)  
*Parent material:* coarse-silty loess over gravelly outwash  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 7.3 inches (18 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability  
 E—3 to 5 inches (8 to 13 cm); silt loam, moderate permeability  
 Bs—5 to 16 inches (13 to 41 cm); silt loam, moderate permeability  
 2BC—16 to 18 inches (41 to 46 cm); gravelly sandy loam, moderately rapid permeability  
 2C—18 to 60 inches (46 to 152 cm); very gravelly sand, rapid permeability

### **Kichatna and Similar Soils**

*Extent:* 30 to 60 percent of the map unit  
*Landform:* hills  
*Slope shape:* convex down and across the slope  
*Slope range:* 3 to 40 percent  
*Slope length:* 33 to 230 feet (10 to 70 m)  
*Parent material:* coarse-silty loess over gravelly outwash  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 5.7 inches (15 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability  
 E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability  
 Bs—4 to 11 inches (10 to 28 cm); silt loam, moderate permeability  
 2BC—11 to 14 inches (28 to 36 cm); very gravelly sandy loam, moderately rapid permeability  
 2C—14 to 60 inches (36 to 152 cm); very gravelly sand, rapid permeability

### **Minor Components**

Doroshin, ponded, and similar soils: 0 to 10 percent of the map unit  
 Jacobsen and similar soils: 0 to 5 percent of the map unit  
 Pioneer Peak and similar soils: 0 to 5 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, cobbles, high gravel content, high sand content, frost action, and permeability

### 434—Kichatna-Pioneer Peak-Jacobsen complex, 0 to 15 percent slopes

*Elevation:* 82 to 1,312 feet (25 to 400 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

#### ***Kichatna and Similar Soils***

*Extent:* 30 to 55 percent of the map unit  
*Landform:* outwash plains  
*Slope shape:* convex down and across the slope  
*Slope range:* 0 to 15 percent  
*Slope length:* 33 to 131 feet (10 to 40 m)  
*Parent material:* coarse-silty loess over gravelly outwash  
*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 5.7 inches (15 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material, moderately rapid permeability  
 E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability  
 Bs—4 to 11 inches (10 to 28 cm); silt loam, moderate permeability  
 2BC—11 to 14 inches (28 to 36 cm); very gravelly sandy loam, moderately rapid permeability  
 2C—14 to 60 inches (36 to 152 cm); very gravelly sand, rapid permeability

#### ***Pioneer Peak and Similar Soils***

*Extent:* 20 to 40 percent of the map unit  
*Landform:* depressions on till plains  
*Slope shape:* concave down and across the slope  
*Slope range:* 0 to 10 percent  
*Slope length:* 33 to 131 feet (10 to 40 m)  
*Parent material:* eolian deposits over gravelly glacial drift

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* medium

*Drainage class:* somewhat poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April—May—24 inches (61 cm); other months—30 inches (76 cm)

*Ponding:* none

*Available water capacity (approximate):* 12.7 inches (32 cm)

*Vegetation:* mixed paper birch-white spruce forest, mixed paper birch-quaking aspen forest

*Representative profile:*

Oa—0 to 3 inches (0 to 8 cm); highly decomposed plant material, moderately rapid permeability

E/B—3 to 5 inches (8 to 13 cm); silt loam, moderate permeability

Bs—5 to 10 inches (13 to 25 cm); silt loam, moderate permeability

Eb/Bsb—10 to 25 inches (25 to 63 cm); silt loam, moderate permeability

2BC—25 to 37 inches (63 to 95 cm); gravelly loam, moderately rapid permeability

2C—37 to 60 inches (95 to 152 cm); very gravelly sandy loam, rapid permeability

*Note:* Construction may have altered the water table in some areas.

#### ***Jacobsen and Similar Soils***

*Extent:* 10 to 30 percent of the map unit

*Landform:* depressions on till plains

*Slope shape:* concave down and across the slope

*Slope range:* 0 to 10 percent

*Slope length:* 33 to 131 feet (10 to 40 m)

*Parent material:* alluvium overlying gravelly glacial drift

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April—May—6 inches (15 cm); other months—12 inches (30 cm)

*Ponding:* none

*Available water capacity (approximate):* 5.6 inches (14 cm)

*Vegetation:* mixed paper birch-white spruce forest, stunted black spruce woodland and open forest

*Representative profile:*

Oa—0 to 8 inches (0 to 20 cm); muck, moderate permeability

Ag—8 to 11 inches (20 to 28 cm); gravelly silt loam, moderate permeability

2Cg1—11 to 14 inches (28 to 36 cm); very gravelly loamy sand, moderately rapid permeability

2Cg2—14 to 60 inches (36 to 152 cm); very gravelly sandy loam, moderately rapid permeability

*Note:* Construction may have altered the water table in some areas.

**Minor Components**

Doroshin and similar soils: 5 to 15 percent of the map unit

**Management Considerations**

*Soil-related factors:* slope, water table, excess organic matter, cobbles, high gravel content, high sand content, frost action, and permeability

**435—Matsu silt loam, 0 to 3 percent slopes**

*Elevation:* 49 to 295 feet (15 to 90 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

**Matsu and Similar Soils**

*Extent:* 80 to 95 percent of the map unit

*Landform:* depressions on stream terraces

*Slope shape:* concave down and across the slope

*Slope range:* 0 to 3 percent

*Slope length:* 16 to 98 feet (5 to 30 m)

*Parent material:* mixed alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* low

*Drainage class:* somewhat poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April–May—24 inches (61 cm); other months—30 inches (76 cm)

*Ponding:* none

*Available water capacity (approximate):* 12.4 inches (32 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability

E—3 to 6 inches (8 to 14 cm); silt loam, moderate permeability

Bs—6 to 11 inches (14 to 28 cm); silt loam, moderately rapid permeability

Ab—11 to 15 inches (28 to 38 cm); silt loam, moderately rapid permeability

Cg1—15 to 31 inches (38 to 79 cm); silt loam, moderate permeability

Cg2—31 to 60 inches (79 to 153 cm); silt loam, moderate permeability

*Note:* Construction may have altered the water table in some areas.

**Minor Components**

Clam Gulch and similar soils: 5 to 10 percent of the map unit

Doroshin, ponded, and similar soils: 0 to 10 percent of the map unit

**Management Considerations**

*Soil-related factors:* slope, water table, high sand content, frost action, and permeability

**436—Matsu silt loam, 3 to 7 percent slopes**

*Elevation:* 49 to 410 feet (15 to 125 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

**Matsu and Similar Soils**

*Extent:* 80 to 95 percent of the map unit

*Landform:* depressions on stream terraces

*Slope shape:* concave down and across the slope

*Slope range:* 3 to 7 percent

*Slope length:* 16 to 98 feet (5 to 30 m)

*Parent material:* mixed alluvium

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* medium  
*Drainage class:* somewhat poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April–May—24 inches (61 cm); other months—30 inches (76 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 12.4 inches (32 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability  
 E—3 to 6 inches (8 to 14 cm); silt loam, moderate permeability  
 Bs—6 to 11 inches (14 to 28 cm); silt loam, moderately rapid permeability  
 Ab—11 to 15 inches (28 to 38 cm); silt loam, moderately rapid permeability  
 Cg1—15 to 31 inches (38 to 79 cm); silt loam, moderate permeability  
 Cg2—31 to 60 inches (79 to 153 cm); silt loam, moderate permeability  
*Note:* Construction may have altered the water table in some areas.

### **Minor Components**

Clam Gulch and similar soils: 5 to 10 percent of the map unit  
 Doroshin, ponded, and similar soils: 0 to 10 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, water table, high sand content, frost action, and permeability

### **437—Moose River-Niklason complex, frequently flooded, 0 to 3 percent slopes**

*Elevation:* 33 to 984 feet (10 to 300 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### **Moose River and Similar Soils**

*Extent:* 50 to 90 percent of the map unit  
*Landform:* depressions on flood plains

*Slope shape:* concave down and across the slope  
*Slope range:* 0 to 3 percent  
*Slope length:* 49 to 820 feet (15 to 250 m)  
*Parent material:* stratified alluvium  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* very high  
*Drainage class:* very poorly drained  
*Flooding:* frequent  
*Depth to high water table (approximate):* April–May—6 inches (15 cm); other months—12 inches (30 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 10.8 inches (27 cm)  
*Vegetation:* tall alder-willow scrub, low willow scrub, sedge-grass meadow  
*Representative profile:*  
 Oi—0 to 5 inches (0 to 13 cm); slightly decomposed plant material, moderately rapid permeability  
 A—5 to 10 inches (13 to 25 cm); silt loam, moderate permeability  
 Cg1—10 to 50 inches (25 to 127 cm); stratified fine sand to silt loam, moderate permeability  
 2Cg2—50 to 60 inches (127 to 152 cm); gravelly sand, rapid permeability  
*Note:* Construction may have altered the water table in some areas.

### **Niklason and Similar Soils**

*Extent:* 10 to 30 percent of the map unit  
*Landform:* flood plains  
*Slope shape:* linear down and across the slope  
*Slope range:* 0 to 3 percent  
*Slope length:* 33 to 492 feet (10 to 150 m)  
*Parent material:* loamy alluvium over sandy and gravelly alluvium  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe  
*Runoff:* low  
*Drainage class:* moderately well drained  
*Flooding:* frequent  
*Depth to high water table (approximate):* 24 inches (61 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 7.1 inches (18 cm)  
*Vegetation:* mixed balsam poplar-paper birch forest, paper birch forest, mixed paper birch-white spruce forest

*Representative profile:*

Oe—0 to 1 inch (0 to 3 cm); moderately decomposed plant material, moderately rapid permeability

A—1 to 4 inches (3 to 10 cm); silt loam, moderate permeability

C1—4 to 28 inches (10 to 70 cm); stratified loamy sand to silt loam, moderate permeability

2C2—28 to 60 inches (70 to 152 cm); extremely gravelly coarse sand, rapid permeability

*Note:* Construction may have altered the water table in some areas.

**Minor Components**

Disappear and similar soils: 0 to 15 percent of the map unit

**Management Considerations**

*Soil-related factors:* flooding, water table, high gravel content, high sand content, frost action, and permeability

**438—Moose River-Niklason complex, occasionally flooded, 0 to 3 percent slopes**

*Elevation:* 33 to 1,312 feet (10 to 400 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

**Moose River and Similar Soils**

*Extent:* 50 to 90 percent of the map unit

*Landform:* depressions on flood plains

*Slope shape:* concave down and across the slope

*Slope range:* 0 to 3 percent

*Slope length:* 49 to 820 feet (15 to 250 m)

*Parent material:* stratified alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very high

*Drainage class:* very poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April—May—6 inches (15 cm); other months—12 inches (30 cm)

*Ponding:* none

*Available water capacity (approximate):* 10.8 inches (27 cm)

*Vegetation:* tall alder-willow scrub, low willow scrub, sedge-grass meadow

*Representative profile:*

Oi—0 to 5 inches (0 to 13 cm); slightly decomposed plant material, moderately rapid permeability

A—5 to 10 inches (13 to 25 cm); silt loam, moderate permeability

Cg1—10 to 50 inches (25 to 127 cm); stratified fine sand to silt loam, moderate permeability

2Cg2—50 to 60 inches (127 to 152 cm); gravelly sand, rapid permeability

*Note:* Construction may have altered the water table in some areas.

**Niklason and Similar Soils**

*Extent:* 10 to 30 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear down and across the slope

*Slope range:* 0 to 3 percent

*Slope length:* 33 to 492 feet (10 to 150 m)

*Parent material:* loamy alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* low

*Drainage class:* moderately well drained

*Flooding:* occasional

*Depth to high water table (approximate):* 24 inches (61 cm)

*Ponding:* none

*Available water capacity (approximate):* 7.1 inches (18 cm)

*Vegetation:* mixed balsam poplar-paper birch forest, paper birch forest, mixed paper birch-white spruce forest

*Representative profile:*

Oe—0 to 1 inch (0 to 3 cm); moderately decomposed plant material, moderately rapid permeability

A—1 to 4 inches (3 to 10 cm); silt loam, moderate permeability

C1—4 to 28 inches (10 to 70 cm); stratified loamy sand to silt loam, moderate permeability

2C2—28 to 60 inches (70 to 152 cm); extremely gravelly coarse sand, rapid permeability

*Note:* Construction may have altered the water table in some areas.

**Minor Components**

Disappear and similar soils: 0 to 10 percent of the map unit

Doroshin, flooded, and similar soils: 0 to 10 percent of the map unit

Water: 0 to 5 percent of the map unit

**Management Considerations**

*Soil-related factors:* flooding, water table, high gravel content, high sand content, frost action, and permeability

**439—Nakochna-Rock outcrop association, 20 to 85 percent slopes**

*Elevation:* 1,312 to 5,413 feet (400 to 1,650 m)

*Mean annual precipitation:* 30 to 50 inches (76 to 127 cm)

*Frost-free period:* 65 to 107 days

**Nakochna and Similar Soils**

*Extent:* 20 to 75 percent of the map unit

*Landform:* mountains

*Slope shape:* convex down and across the slope

*Slope range:* 20 to 85 percent

*Slope length:* 33 to 656 feet (10 to 200 m)

*Parent material:* silty loess

*Depth to bedrock (lithic):* 14 to 20 inches (35 to 51 cm)

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 4.6 inches (12 cm)

*Vegetation:* dwarf ericaceous shrub scrub, dwarf shrub-lichen scrub

*Representative profile:*

Oe—0 to 2 inches (0 to 5 cm); moderately decomposed plant material, moderately rapid permeability

A—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

E—4 to 5 inches (10 to 13 cm); silt loam, moderate permeability

Bhs—5 to 14 inches (13 to 36 cm); silt loam, moderate permeability  
2R—14 inches (36 cm); bedrock, impermeable

**Rock outcrop**

*Extent:* 15 to 50 percent of the map unit

*Landform:* mountains

*Slope shape:* linear or convex downslope; linear or convex across the slope

*Slope range:* 20 to 85 percent

*Note:* Rock outcrop consists of exposures of bare bedrock other than lava flows and rock-lined pits.

**Minor Components**

Rubble land: 5 to 20 percent of the map unit

Histic Cryaquepts and similar soils: 0 to 10 percent of the map unit

**Management Considerations**

*Soil-related factors:* slope, high clay content, and frost action

**440—Pioneer Peak silt loam, 0 to 3 percent slopes**

*Elevation:* 33 to 1,148 feet (10 to 350 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

**Pioneer Peak and Similar Soils**

*Extent:* 70 to 90 percent of the map unit

*Landform:* depressions on till plains

*Slope shape:* concave down and across the slope

*Slope range:* 0 to 3 percent

*Slope length:* 33 to 131 feet (10 to 40 m)

*Parent material:* eolian deposits over gravelly glacial drift

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* low

*Drainage class:* somewhat poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April-May—24 inches (61 cm); other months—30 inches (76 cm)

*Ponding:* none

*Available water capacity (approximate):* 12.7 inches (32 cm)

*Vegetation:* mixed paper birch-white spruce forest, mixed paper birch-quaking aspen forest

*Representative profile:*

Oa—0 to 3 inches (0 to 8 cm); highly decomposed plant material, moderately rapid permeability

E/B—3 to 5 inches (8 to 13 cm); silt loam, moderate permeability

Bs—5 to 10 inches (13 to 25 cm); silt loam, moderate permeability

Eb/Bsb—10 to 25 inches (25 to 63 cm); silt loam, moderate permeability

2BC—25 to 37 inches (63 to 95 cm); gravelly loam, moderately rapid permeability

2C—37 to 60 inches (95 to 152 cm); very gravelly sandy loam, rapid permeability

*Note:* Construction may have altered the water table in some areas.

### **Minor Components**

Kichatna and similar soils: 5 to 20 percent of the map unit

Disappear and similar soils: 5 to 10 percent of the map unit

Doroshin, ponded, and similar soils: 0 to 10 percent of the map unit

### **Management Considerations**

*Soil-related factors:* water table, high gravel content, frost action, and permeability

## **441—Pioneer Peak silt loam, 3 to 7 percent slopes**

*Elevation:* 33 to 1,312 feet (10 to 400 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### **Pioneer Peak and Similar Soils**

*Extent:* 70 to 90 percent of the map unit

*Landform:* depressions on till plains

*Slope shape:* concave down and across the slope

*Slope range:* 3 to 7 percent

*Slope length:* 33 to 131 feet (10 to 40 m)

*Parent material:* eolian deposits over gravelly glacial drift

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* medium

*Drainage class:* somewhat poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April–May—24 inches (61 cm); other months—30 inches (76 cm)

*Ponding:* none

*Available water capacity (approximate):* 12.7 inches (32 cm)

*Vegetation:* mixed paper birch-white spruce forest, mixed paper birch-quaking aspen forest

*Representative profile:*

Oa—0 to 3 inches (0 to 8 cm); highly decomposed plant material, moderately rapid permeability

E/B—3 to 5 inches (8 to 13 cm); silt loam, moderate permeability

Bs—5 to 10 inches (13 to 25 cm); silt loam, moderate permeability

Eb/Bsb—10 to 25 inches (25 to 63 cm); silt loam, moderate permeability

2BC—25 to 37 inches (63 to 95 cm); gravelly loam, moderately rapid permeability

2C—37 to 60 inches (95 to 152 cm); very gravelly sandy loam, rapid permeability

*Note:* Construction may have altered the water table in some areas.

### **Minor Components**

Disappear and similar soils: 5 to 20 percent of the map unit

Kichatna and similar soils: 5 to 20 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, water table, frost action, and permeability

## **442—Pioneer Peak-Jacobsen-Doroshin complex, 12 to 20 percent slopes**

*Elevation:* 82 to 1,312 feet (25 to 400 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

**Pioneer Peak and Similar Soils**

*Extent:* 20 to 50 percent of the map unit

*Landform:* depressions on hills

*Slope shape:* concave down and across the slope

*Slope range:* 12 to 20 percent

*Slope length:* 33 to 131 feet (10 to 40 m)

*Parent material:* eolian deposits over gravelly glacial drift

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* somewhat poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April—May—24 inches (61 cm); other months—30 inches (76 cm)

*Ponding:* none

*Available water capacity (approximate):* 12.7 inches (32 cm)

*Vegetation:* mixed paper birch-white spruce forest, mixed paper birch-quaking aspen forest

*Representative profile:*

Oa—0 to 3 inches (0 to 8 cm); highly decomposed plant material, moderately rapid permeability

E/B—3 to 5 inches (8 to 13 cm); silt loam, moderate permeability

Bs—5 to 10 inches (13 to 25 cm); silt loam, moderate permeability

Eb/Bsb—10 to 25 inches (25 to 63 cm); silt loam, moderate permeability

2BC—25 to 37 inches (63 to 95 cm); gravelly loam, moderately rapid permeability

2C—37 to 60 inches (95 to 152 cm); very gravelly sandy loam, rapid permeability

*Note:* Construction may have altered the water table in some areas.

**Jacobsen and Similar Soils**

*Extent:* 20 to 50 percent of the map unit

*Landform:* depressions on hills

*Slope shape:* concave down and across the slope

*Slope range:* 12 to 20 percent

*Slope length:* 33 to 131 feet (10 to 40 m)

*Parent material:* alluvium overlying gravelly glacial drift

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—slight

*Runoff:* very high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April—May—6 inches (15 cm); other months—12 inches (30 cm)

*Ponding:* none

*Available water capacity (approximate):* 5.6 inches (14 cm)

*Vegetation:* mixed paper birch-white spruce forest, stunted black spruce woodland and open forest

*Representative profile:*

Oa—0 to 8 inches (0 to 20 cm); muck, moderate permeability

Ag—8 to 11 inches (20 to 28 cm); gravelly silt loam, moderate permeability

2Cg1—11 to 14 inches (28 to 36 cm); very gravelly loamy sand, moderately rapid permeability

2Cg2—14 to 60 inches (36 to 152 cm); very gravelly sandy loam, moderately rapid permeability

*Note:* Construction may have altered the water table in some areas.

**Doroshin and Similar Soils**

*Extent:* 10 to 25 percent of the map unit

*Landform:* swales on hills

*Slope shape:* concave down and across the slope

*Slope range:* 12 to 20 percent

*Slope length:* 33 to 131 feet (10 to 40 m)

*Parent material:* organic material over loamy and gravelly sediments

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very high

*Drainage class:* very poorly drained

*Flooding:* none

*Depth to high water table (approximate):* 0 inches (0 cm)

*Ponding:* none

*Available water capacity (approximate):* 16.4 inches (42 cm)

*Vegetation:* stunted black spruce woodland and open forest, mixed paper birch-white spruce forest, bluejoint reedgrass meadow

*Representative profile:*

Oe—0 to 43 inches (0 to 109 cm); mucky peat, moderately rapid permeability

2Cg—43 to 60 inches (109 to 152 cm); gravelly loamy sand, moderately rapid permeability

*Note:* Construction may have altered the water table in some areas.

### **Minor Components**

Kichatna and similar soils: 5 to 20 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, water table, excess organic matter, high gravel content, frost action, and permeability

### **443—Pits, gravel**

*Elevation:* 33 to 820 feet (10 to 250 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

#### **Pits, gravel**

*Extent:* 100 percent of the map unit  
*Landform:* gravel pits  
*Slope shape:* concave down and across the slope  
*Slope range:* 0 to 60 percent

### **Management Considerations**

*Soil-related factors:* none

### **444—Riverwash and Niklavar soils, 0 to 2 percent slopes**

*Elevation:* 20 to 66 feet (6 to 20 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

#### **Riverwash**

*Extent:* 0 to 90 percent of the map unit  
*Landform:* flood plains  
*Slope shape:* linear down and across the slope  
*Slope range:* 0 to 2 percent  
*Vegetation:* sparse herbs, barren

#### **Niklavar, frequently flooded, and Similar Soils**

*Extent:* 0 to 90 percent of the map unit  
*Landform:* flood plains  
*Slope shape:* linear down and across the slope

*Slope range:* 0 to 2 percent  
*Slope length:* 164 to 1,312 feet (50 to 400 m)  
*Parent material:* loamy alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* very high

*Drainage class:* poorly drained

*Flooding:* frequent

*Depth to high water table (approximate):* April–May—15 inches (38 cm); other months—18 inches (45 cm)

*Ponding:* none

*Available water capacity (approximate):* 4.8 inches (12 cm)

*Vegetation:* balsam poplar forest, tall alder-willow scrub

*Representative profile:*

A—0 to 1 inch (0 to 3 cm); loamy fine sand, moderate permeability

Cg—1 to 30 inches (3 to 76 cm); stratified sand to silt, moderate permeability

2C—30 to 60 inches (76 to 152 cm); very gravelly coarse sand, rapid permeability

### **Minor Components**

Water: 0 to 15 percent of the map unit

### **Management Considerations**

*Soil-related factors:* low available water capacity, water table, flooding, and frost action

### **445—Rock outcrop**

*Elevation:* 33 to 984 feet (10 to 300 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

#### **Rock outcrop**

*Extent:* 100 percent of the map unit

*Landform:* cliffs

*Slope shape:* linear down and across the slope

*Slope range:* 90 to 200 percent

*Note:* Rock outcrop consists of exposures of bare bedrock, other than lava flows and rock-lined pits.

### **Management Considerations**

*Soil-related factors:* slope

#### **446—Salamatof peat, 0 to 3 percent slopes**

*Elevation:* 16 to 656 feet (5 to 200 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

#### **Salamatof and Similar Soils**

*Extent:* 80 to 95 percent of the map unit  
*Landform:* depressions on outwash plains  
*Slope shape:* concave down and across the slope  
*Slope range:* 0 to 3 percent  
*Slope length:* 33 to 164 feet (10 to 50 m)  
*Parent material:* organic material  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight  
*Runoff:* very high  
*Drainage class:* very poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* 0 inches (0 cm)  
*Ponding:* frequent  
*Available water capacity (approximate):* 19.5 inches (50 cm)  
*Vegetation:* low ericaceous shrub-shrub birch scrub, stunted black spruce woodland and open forest, sedge-grass meadow  
*Representative profile:*  
 Oi—0 to 60 inches (0 to 152 cm); peat, rapid permeability  
*Note:* Construction may have altered the water table in some areas.

#### **Minor Components**

Water: 5 to 20 percent of the map unit  
 Doroshin, ponded, and similar soils: 0 to 10 percent of the map unit

### **Management Considerations**

*Soil-related factors:* ponding, water table, excess organic matter, permeability, and frost action

#### **447—Smithfha loamy very fine sand, 0 to 3 percent slopes**

*Elevation:* 16 to 213 feet (5 to 65 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

#### **Smithfha and Similar Soils**

*Extent:* 80 to 95 percent of the map unit  
*Landform:* plains  
*Slope shape:* convex down and across the slope  
*Slope range:* 0 to 3 percent  
*Slope length:* 33 to 492 feet (10 to 150 m)  
*Parent material:* coarse-loamy eolian deposits  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe  
*Runoff:* very low  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 8.3 inches (21 cm)  
*Vegetation:* mixed paper birch-white spruce forest, paper birch forest  
*Representative profile:*  
 Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability  
 E—3 to 4 inches (8 to 10 cm); loamy very fine sand, moderately rapid permeability  
 Bw—4 to 18 inches (10 to 46 cm); loamy very fine sand, moderately rapid permeability  
 Eb—18 to 19 inches (46 to 48 cm); loamy very fine sand, moderately rapid permeability  
 Bwb—19 to 29 inches (48 to 74 cm); loamy very fine sand, moderately rapid permeability  
 C—29 to 60 inches (74 to 152 cm); loamy very fine sand, moderately rapid permeability

#### **Minor Components**

Anchorpark and similar soils: 0 to 15 percent of the map unit  
 Kashwitna and similar soils: 0 to 10 percent of the map unit  
 Disappear and similar soils: 0 to 5 percent of the map unit

### **Management Considerations**

*Soil-related factors:* frost action and permeability

### **448—Smithfha loamy very fine sand, 3 to 7 percent slopes**

*Elevation:* 16 to 279 feet (5 to 85 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### **Smithfha and Similar Soils**

*Extent:* 80 to 95 percent of the map unit

*Landform:* plains

*Slope shape:* convex down and across the slope

*Slope range:* 3 to 7 percent

*Slope length:* 33 to 492 feet (10 to 150 m)

*Parent material:* coarse-loamy eolian deposits

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 8.3 inches (21 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability

E—3 to 4 inches (8 to 10 cm); loamy very fine sand, moderately rapid permeability

Bw—4 to 18 inches (10 to 46 cm); loamy very fine sand, moderately rapid permeability

Eb—18 to 19 inches (46 to 48 cm); loamy very fine sand, moderately rapid permeability

Bwb—19 to 29 inches (48 to 74 cm); loamy very fine sand, moderately rapid permeability

C—29 to 60 inches (74 to 152 cm); loamy very fine sand, moderately rapid permeability

### **Minor Components**

Anchorpark and similar soils: 0 to 15 percent of the map unit

Kashwitna and similar soils: 0 to 10 percent of the map unit

Disappear and similar soils: 0 to 5 percent of the map unit

### **Management Considerations**

*Soil-related factors:* frost action and permeability

### **449—Smithfha loamy very fine sand, 30 to 45 percent slopes**

*Elevation:* 16 to 820 feet (5 to 250 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### **Smithfha and Similar Soils**

*Extent:* 85 to 95 percent of the map unit

*Landform:* hills

*Slope shape:* convex down and across the slope

*Slope range:* 30 to 45 percent

*Slope length:* 98 to 328 feet (30 to 100 m)

*Parent material:* coarse-loamy eolian deposits

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 8.3 inches (21 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability

E—3 to 4 inches (8 to 10 cm); loamy very fine sand, moderately rapid permeability

Bw—4 to 18 inches (10 to 46 cm); loamy very fine sand, moderately rapid permeability

Eb—18 to 19 inches (46 to 48 cm); loamy very fine sand, moderately rapid permeability

Bwb—19 to 29 inches (48 to 74 cm); loamy very fine sand, moderately rapid permeability

C—29 to 60 inches (74 to 152 cm); loamy very fine sand, moderately rapid permeability

**Minor Components**

Anchorpark and similar soils: 0 to 10 percent of the map unit

Kashwitna and similar soils: 0 to 10 percent of the map unit

**Management Considerations**

*Soil-related factors:* slope, frost action, and permeability

**450—Smithfha loamy very fine sand, undulating and steep**

*Elevation:* 16 to 492 feet (5 to 150 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

**Smithfha and Similar Soils**

*Extent:* 80 to 90 percent of the map unit

*Landform:* hills

*Slope shape:* convex downslope; convex or concave across the slope

*Slope range:* 3 to 40 percent

*Slope length:* 33 to 492 feet (10 to 150 m)

*Parent material:* coarse-loamy eolian deposits

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 8.3 inches (21 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability

E—3 to 4 inches (8 to 10 cm); loamy very fine sand, moderately rapid permeability

Bw—4 to 18 inches (10 to 46 cm); loamy very fine sand, moderately rapid permeability

Eb—18 to 19 inches (46 to 48 cm); loamy very fine sand, moderately rapid permeability

Bwb—19 to 29 inches (48 to 74 cm); loamy very fine sand, moderately rapid permeability

C—29 to 60 inches (74 to 152 cm); loamy very fine sand, moderately rapid permeability

**Minor Components**

Anchorpark and similar soils: 5 to 20 percent of the map unit

Kashwitna and similar soils: 0 to 5 percent of the map unit

Disappear and similar soils: 0 to 5 percent of the map unit

**Management Considerations**

*Soil-related factors:* slope, frost action, and permeability

**451—Smithfha-Anchorpark complex, undulating and hilly**

*Elevation:* 16 to 279 feet (5 to 85 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

**Smithfha and Similar Soils**

*Extent:* 50 to 90 percent of the map unit

*Landform:* plains

*Slope shape:* concave or convex downslope; convex or concave across the slope

*Slope range:* 0 to 15 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* coarse-loamy eolian deposits

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* low

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 8.3 inches (21 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

- Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability
- E—3 to 4 inches (8 to 10 cm); loamy very fine sand, moderately rapid permeability
- Bw—4 to 18 inches (10 to 46 cm); loamy very fine sand, moderately rapid permeability
- Eb—18 to 19 inches (46 to 48 cm); loamy very fine sand, moderately rapid permeability
- Bwb—19 to 29 inches (48 to 74 cm); loamy very fine sand, moderately rapid permeability
- C—29 to 60 inches (74 to 152 cm); loamy very fine sand, moderately rapid permeability

***Anchorpark and Similar Soils***

*Extent:* 10 to 50 percent of the map unit

*Landform:* dunes

*Slope shape:* concave or convex downslope; convex or concave across the slope

*Slope range:* 0 to 15 percent

*Slope length:* 33 to 230 feet (10 to 70 m)

*Parent material:* eolian sands

*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe

*Runoff:* medium

*Drainage class:* somewhat excessively drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 3.9 inches (10 cm)

*Vegetation:* paper birch forest, mixed paper birch-white spruce forest

*Representative profile:*

- Oe—0 to 1 inch (0 to 3 cm); moderately decomposed plant material, moderately rapid permeability
- E—1 to 4 inches (3 to 10 cm); loamy very fine sand, moderately rapid permeability
- Bw1—4 to 9 inches (10 to 23 cm); loamy very fine sand, moderately rapid permeability
- Bw2—9 to 14 inches (23 to 36 cm); fine sand, rapid permeability
- C—14 to 60 inches (36 to 152 cm); fine sand, rapid permeability

***Minor Components***

Kashwitna and similar soils: 0 to 5 percent of the map unit

Disappear and similar soils: 0 to 5 percent of the map unit

***Management Considerations***

*Soil-related factors:* slope, high sand content, frost action, and permeability

**452—Susitna silt loam, 0 to 2 percent slopes**

*Elevation:* 20 to 66 feet (6 to 20 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

***Susitna and Similar Soils***

*Extent:* 80 to 95 percent of the map unit

*Landform:* stream terraces

*Slope shape:* linear down and across the slope

*Slope range:* 0 to 2 percent

*Slope length:* 164 to 984 feet (50 to 300 m)

*Parent material:* loamy alluvium over sandy and gravelly alluvium and/or loamy alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* low

*Drainage class:* well drained

*Flooding:* rare

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 7.9 inches (20 cm)

*Vegetation:* mixed paper birch-white spruce forest, mixed balsam poplar-white spruce forest

*Representative profile:*

- A—0 to 3 inches (0 to 8 cm); silt loam, moderate permeability
- C—3 to 45 inches (8 to 114 cm); stratified loamy fine sand to silt loam, moderate permeability
- 2C—45 to 60 inches (114 to 152 cm); very gravelly sand, rapid permeability

***Minor Components***

Moose River, rare, and similar soils: 0 to 10 percent of the map unit

Niklason, rare, and similar soils: 0 to 10 percent of the map unit

Riverwash: 0 to 10 percent of the map unit

### **Management Considerations**

*Soil-related factors:* flooding, frost action, and high sand content

### **453—Susivar and Niklavar fine sandy loams**

*Elevation:* 10 to 66 feet (3 to 20 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### **Susivar and Similar Soils**

*Extent:* 0 to 90 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear down and across the slope

*Slope range:* 0 to 2 percent

*Slope length:* 164 to 2,625 feet (50 to 800 m)

*Parent material:* loamy alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* low

*Drainage class:* somewhat poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April–May—24 inches (61 cm); other months—30 inches (76 cm)

*Ponding:* none

*Available water capacity (approximate):* 8.1 inches (21 cm)

*Vegetation:* balsam poplar forest

*Representative profile:*

A—0 to 3 inches (0 to 8 cm); fine sandy loam, moderate permeability

Cg—3 to 60 inches (8 to 152 cm); stratified sand to silt, moderate permeability

### **Niklavar and Similar Soils**

*Extent:* 0 to 90 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear down and across the slope

*Slope range:* 0 to 2 percent

*Slope length:* 164 to 2,625 feet (50 to 800 m)

*Parent material:* loamy alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* very high

*Drainage class:* poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April–May—15 inches (38 cm); other months—18 inches (45 cm)

*Ponding:* none

*Available water capacity (approximate):* 4.8 inches (12 cm)

*Vegetation:* balsam poplar forest

*Representative profile:*

A—0 to 1 inch (0 to 3 cm); loamy fine sand, moderate permeability

Cg—1 to 30 inches (3 to 76 cm); stratified sand to silt, moderate permeability

2C—30 to 60 inches (76 to 152 cm); very gravelly coarse sand, rapid permeability

### **Minor Components**

Riverwash: 2 to 10 percent of the map unit

Moose River and similar soils: 0 to 5 percent of the map unit

Niklason and similar soils: 0 to 5 percent of the map unit

### **Management Considerations**

*Soil-related factors:* flooding, water table, frost action, and high sand content

### **454—Susivar-Moose River complex, 0 to 2 percent slopes**

*Elevation:* 20 to 66 feet (6 to 20 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### **Susivar and Similar Soils**

*Extent:* 55 to 80 percent of the map unit

*Landform:* flood plains

*Slope shape:* linear down and across the slope

*Slope range:* 0 to 2 percent

*Slope length:* 164 to 2,297 feet (50 to 700 m)

*Parent material:* loamy alluvium over sandy and gravelly alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe

*Runoff:* low

*Drainage class:* somewhat poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April–May—24 inches (61 cm); other months—30 inches (76 cm)

*Ponding:* none

*Available water capacity (approximate):* 8.1 inches (21 cm)

*Vegetation:* mixed paper birch-white spruce forest, paper birch forest

*Representative profile:*

A—0 to 3 inches (0 to 8 cm); fine sandy loam, moderate permeability

Cg—3 to 60 inches (8 to 152 cm); stratified sand to silt, moderate permeability

### **Moose River and Similar Soils**

*Extent:* 15 to 30 percent of the map unit

*Landform:* depressions on flood plains

*Slope shape:* concave down and across the slope

*Slope range:* 0 to 2 percent

*Slope length:* 164 to 2,297 feet (50 to 700 m)

*Parent material:* stratified alluvium

*Hazard of erosion (organic mat removed):* by water—slight; by wind—slight

*Runoff:* very high

*Drainage class:* very poorly drained

*Flooding:* occasional

*Depth to high water table (approximate):* April–May—6 inches (15 cm); other months—12 inches (30 cm)

*Ponding:* none

*Available water capacity (approximate):* 10.8 inches (27 cm)

*Vegetation:* tall alder-willow scrub, low willow scrub, sedge-grass meadow

*Representative profile:*

Oi—0 to 5 inches (0 to 13 cm); slightly decomposed plant material, moderately rapid permeability

A—5 to 10 inches (13 to 25 cm); silt loam, moderate permeability

Cg1—10 to 50 inches (25 to 127 cm); stratified fine sand to silt loam, moderate permeability

2Cg2—50 to 60 inches (127 to 152 cm); gravelly sand, rapid permeability

*Note:* Construction may have altered the water table in some areas.

### **Minor Components**

Riverwash: 0 to 10 percent of the map unit

Susitna and similar soils: 2 to 10 percent of the map unit

### **Management Considerations**

*Soil-related factors:* flooding, water table, and high sand content

### **455—Talkeetna-Chugach-Deneka complex, 12 to 20 percent slopes**

*Elevation:* 738 to 2,297 feet (225 to 700 m)

*Mean annual precipitation:* 20 to 30 inches (51 to 76 cm)

*Frost-free period:* 85 to 120 days

### **Talkeetna and Similar Soils**

*Extent:* 30 to 70 percent of the map unit

*Landform:* mountains

*Slope shape:* concave or convex downslope; concave or convex across the slope

*Slope range:* 12 to 20 percent

*Slope length:* 66 to 328 feet (20 to 100 m)

*Parent material:* silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 10.2 inches (26 cm)

*Vegetation:* mixed paper birch-white spruce forest, mixed paper birch-quaking aspen forest

*Representative profile:*

Oi—0 to 3 inches (0 to 7 cm); slightly decomposed plant material, rapid permeability

A—3 to 6 inches (7 to 15 cm); silt loam, moderate permeability

E—6 to 7 inches (15 to 18 cm); silt loam, moderate permeability

Bhs—7 to 18 inches (18 to 46 cm); silt loam, moderate permeability

2C—18 to 60 inches (46 to 152 cm); very gravelly sandy loam, moderate permeability

### **Chugach and Similar Soils**

*Extent:* 10 to 40 percent of the map unit

*Landform:* mountains

*Slope shape:* concave or convex downslope;  
concave or convex across the slope

*Slope range:* 12 to 20 percent

*Slope length:* 66 to 328 feet (20 to 100 m)

*Parent material:* silty loess over gravelly outwash

*Hazard of erosion (organic mat removed):* by  
water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than  
72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 5.3 inches  
(13 cm)

*Vegetation:* mixed paper birch-white spruce forest

*Representative profile:*

Oe—0 to 3 inches (0 to 8 cm); moderately  
decomposed plant material, moderately rapid  
permeability

E—3 to 4 inches (8 to 10 cm); silt loam,  
moderate permeability

Bhs—4 to 8 inches (10 to 20 cm); silt loam,  
moderate permeability

Bs—8 to 10 inches (20 to 25 cm); silt loam,  
moderate permeability

2C—10 to 60 inches (25 to 152 cm); very  
gravelly sand, rapid permeability

### **Deneka and Similar Soils**

*Extent:* 10 to 50 percent of the map unit

*Landform:* mountains

*Slope shape:* concave or convex downslope;  
concave or convex across the slope

*Slope range:* 12 to 20 percent

*Slope length:* 66 to 328 feet (20 to 100 m)

*Parent material:* ash influenced loess over gravelly  
till

*Depth to bedrock (lithic):* 16 to 26 inches (40 to  
66 cm)

*Hazard of erosion (organic mat removed):* by  
water—severe; by wind—severe

*Runoff:* medium

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than  
72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches  
(16 cm)

*Vegetation:* mixed paper birch-white spruce forest

*Representative profile:*

Oe—0 to 2 inches (0 to 5 cm); moderately  
decomposed plant material, moderately rapid  
permeability

E—2 to 4 inches (5 to 10 cm); silt loam,  
moderate permeability

Bhs—4 to 17 inches (10 to 43 cm); silt loam,  
moderate permeability

2BC—17 to 22 inches (43 to 56 cm); very cobbly  
sandy loam, moderate permeability

3R—22 inches (56 cm); bedrock, impermeable

### **Minor Components**

Rock outcrop: 1 to 15 percent of the map unit

Histic Cryaquepts and similar soils: 1 to 15 percent  
of the map unit

### **Management Considerations**

*Soil-related factors:* slope, cobbles, high gravel  
content, high sand content, frost action, and  
permeability

### **456—Talkeetna-Chugach-Deneka complex, 20 to 45 percent slopes**

*Elevation:* 738 to 3,281 feet (225 to 1,000 m)

*Mean annual precipitation:* 20 to 30 inches (51 to  
76 cm)

*Frost-free period:* 85 to 120 days

### **Talkeetna and Similar Soils**

*Extent:* 30 to 70 percent of the map unit

*Landform:* mountains

*Slope shape:* concave or convex downslope;  
concave or convex across the slope

*Slope range:* 20 to 45 percent

*Slope length:* 66 to 328 feet (20 to 100 m)

*Parent material:* silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by  
water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 10.2 inches (26 cm)

*Vegetation:* mixed paper birch-white spruce forest, mixed paper birch-quaking aspen forest

*Representative profile:*

Oi—0 to 3 inches (0 to 7 cm); slightly decomposed plant material, rapid permeability

A—3 to 6 inches (7 to 15 cm); silt loam, moderate permeability

E—6 to 7 inches (15 to 18 cm); silt loam, moderate permeability

Bhs—7 to 18 inches (18 to 46 cm); silt loam, moderate permeability

2C—18 to 60 inches (46 to 152 cm); very

gravelly sandy loam, moderate permeability

### **Chugach and Similar Soils**

*Extent:* 10 to 40 percent of the map unit

*Landform:* mountains

*Slope shape:* concave or convex downslope; concave or convex across the slope

*Slope range:* 20 to 45 percent

*Slope length:* 66 to 328 feet (20 to 100 m)

*Parent material:* silty loess over gravelly outwash

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 5.3 inches (13 cm)

*Vegetation:* mixed paper birch-white spruce forest

*Representative profile:*

Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability

E—3 to 4 inches (8 to 10 cm); silt loam, moderate permeability

Bhs—4 to 8 inches (10 to 20 cm); silt loam, moderate permeability

Bs—8 to 10 inches (20 to 25 cm); silt loam, moderate permeability

2C—10 to 60 inches (25 to 152 cm); very gravelly sand, rapid permeability

### **Deneka and Similar Soils**

*Extent:* 10 to 50 percent of the map unit

*Landform:* mountains

*Slope shape:* concave or convex downslope; concave or convex across the slope

*Slope range:* 20 to 45 percent

*Slope length:* 66 to 328 feet (20 to 100 m)

*Parent material:* ash influenced loess over gravelly till

*Depth to bedrock (lithic):* 16 to 26 inches (40 to 66 cm)

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches (16 cm)

*Vegetation:* mixed paper birch-white spruce forest

*Representative profile:*

Oe—0 to 2 inches (0 to 5 cm); moderately decomposed plant material, moderately rapid permeability

E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

Bhs—4 to 17 inches (10 to 43 cm); silt loam, moderate permeability

2BC—17 to 22 inches (43 to 56 cm); very cobbly sandy loam, moderate permeability

3R—22 inches (56 cm); bedrock, impermeable

### **Minor Components**

Rock outcrop: 1 to 15 percent of the map unit

Histic Cryaquepts and similar soils: 1 to 15 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, cobbles, high gravel content, high sand content, frost action, and permeability

### **457—Talkeetna-Chugach-Deneka complex, 45 to 85 percent slopes**

*Elevation:* 738 to 2,821 feet (225 to 860 m)

*Mean annual precipitation:* 20 to 30 inches (51 to 76 cm)

*Frost-free period:* 85 to 120 days

### **Talkeetna and Similar Soils**

*Extent:* 30 to 70 percent of the map unit

*Landform:* mountains

*Slope shape:* concave or convex downslope; concave or convex across the slope

*Slope range:* 45 to 85 percent

*Slope length:* 66 to 328 feet (20 to 100 m)

*Parent material:* silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 10.2 inches (26 cm)

*Vegetation:* mixed paper birch-white spruce forest, mixed paper birch-quaking aspen forest

*Representative profile:*

Oi—0 to 3 inches (0 to 7 cm); slightly decomposed plant material, rapid permeability

A—3 to 6 inches (7 to 15 cm); silt loam, moderate permeability

E—6 to 7 inches (15 to 18 cm); silt loam, moderate permeability

Bhs—7 to 18 inches (18 to 46 cm); silt loam, moderate permeability

2C—18 to 60 inches (46 to 152 cm); very gravelly sandy loam, moderate permeability

### **Chugach and Similar Soils**

*Extent:* 10 to 40 percent of the map unit

*Landform:* mountains

*Slope shape:* concave or convex downslope; concave or convex across the slope

*Slope range:* 45 to 85 percent

*Slope length:* 66 to 328 feet (20 to 100 m)

*Parent material:* silty loess over gravelly outwash

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 5.3 inches (13 cm)

*Vegetation:* mixed paper birch-white spruce forest

*Representative profile:*

Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability

E—3 to 4 inches (8 to 10 cm); silt loam, moderate permeability

Bhs—4 to 8 inches (10 to 20 cm); silt loam, moderate permeability

Bs—8 to 10 inches (20 to 25 cm); silt loam, moderate permeability

2C—10 to 60 inches (25 to 152 cm); very gravelly sand, rapid permeability

### **Deneka and Similar Soils**

*Extent:* 10 to 50 percent of the map unit

*Landform:* mountains

*Slope shape:* concave or convex downslope; concave or convex across the slope

*Slope range:* 45 to 85 percent

*Slope length:* 66 to 328 feet (20 to 100 m)

*Parent material:* ash influenced loess over gravelly till

*Depth to bedrock (lithic):* 16 to 26 inches (40 to 66 cm)

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 6.1 inches (16 cm)

*Vegetation:* mixed paper birch-white spruce forest

*Representative profile:*

Oe—0 to 2 inches (0 to 5 cm); moderately decomposed plant material, moderately rapid permeability

E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

Bhs—4 to 17 inches (10 to 43 cm); silt loam, moderate permeability

2BC—17 to 22 inches (43 to 56 cm); very cobbly sandy loam, moderate permeability

3R—22 inches (56 cm); bedrock, impermeable

### **Minor Components**

Rock outcrop: 1 to 15 percent of the map unit  
Histic Cryaquepts and similar soils: 1 to 15 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, cobbles, high gravel content, high sand content, frost action, and permeability

## **458—Talkeetna-Chugach-Deneka complex, undulating and hilly**

*Elevation:* 738 to 2,297 feet (225 to 700 m)  
*Mean annual precipitation:* 20 to 30 inches (51 to 76 cm)  
*Frost-free period:* 85 to 120 days

### **Talkeetna and Similar Soils**

*Extent:* 30 to 70 percent of the map unit  
*Landform:* structural benches on mountains  
*Slope shape:* concave or convex downslope; concave or convex across the slope  
*Slope range:* 3 to 20 percent  
*Slope length:* 16 to 164 feet (5 to 50 m)  
*Parent material:* silty loess over gravelly till  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 10.2 inches (26 cm)  
*Vegetation:* mixed paper birch-white spruce forest, mixed paper birch-quaking aspen forest  
*Representative profile:*  
Oi—0 to 3 inches (0 to 7 cm); slightly decomposed plant material, rapid permeability  
A—3 to 6 inches (7 to 15 cm); silt loam, moderate permeability  
E—6 to 7 inches (15 to 18 cm); silt loam, moderate permeability

Bhs—7 to 18 inches (18 to 46 cm); silt loam, moderate permeability  
2C—18 to 60 inches (46 to 152 cm); very gravelly sandy loam, moderate permeability

### **Chugach and Similar Soils**

*Extent:* 10 to 40 percent of the map unit  
*Landform:* structural benches on mountains  
*Slope shape:* concave or convex downslope; concave or convex across the slope  
*Slope range:* 3 to 20 percent  
*Slope length:* 16 to 164 feet (5 to 50 m)  
*Parent material:* silty loess over gravelly outwash  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 5.3 inches (13 cm)  
*Vegetation:* mixed paper birch-white spruce forest  
*Representative profile:*  
Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability  
E—3 to 4 inches (8 to 10 cm); silt loam, moderate permeability  
Bhs—4 to 8 inches (10 to 20 cm); silt loam, moderate permeability  
Bs—8 to 10 inches (20 to 25 cm); silt loam, moderate permeability  
2C—10 to 60 inches (25 to 152 cm); very gravelly sand, rapid permeability

### **Deneka and Similar Soils**

*Extent:* 10 to 50 percent of the map unit  
*Landform:* structural benches on mountains  
*Slope shape:* concave or convex downslope; concave or convex across the slope  
*Slope range:* 3 to 20 percent  
*Slope length:* 16 to 164 feet (5 to 50 m)  
*Parent material:* ash influenced loess over gravelly till  
*Depth to bedrock (lithic):* 16 to 26 inches (40 to 66 cm)  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 6.1 inches (16 cm)  
*Vegetation:* mixed paper birch-white spruce forest  
*Representative profile:*  
 Oe—0 to 2 inches (0 to 5 cm); moderately decomposed plant material, moderately rapid permeability  
 E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability  
 Bhs—4 to 17 inches (10 to 43 cm); silt loam, moderate permeability  
 2BC—17 to 22 inches (43 to 56 cm); very cobbly sandy loam, moderate permeability  
 3R—22 inches (56 cm); bedrock, impermeable

### **Minor Components**

Rock outcrop: 1 to 15 percent of the map unit  
 Histic Cryaquepts, warm, and similar soils: 1 to 15 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, cobbles, high gravel content, high sand content, frost action, and permeability

### **459—Talkeetna-Chugach-Histic Cryaquepts association, 10 to 70 percent slopes**

*Elevation:* 1,312 to 2,625 feet (400 to 800 m)  
*Mean annual precipitation:* 20 to 50 inches (51 to 127 cm)  
*Frost-free period:* 85 to 120 days

### **Talkeetna and Similar Soils**

*Extent:* 30 to 70 percent of the map unit  
*Landform:* mountains  
*Slope shape:* convex or concave downslope; convex or concave across the slope  
*Slope range:* 10 to 70 percent  
*Slope length:* 16 to 1,640 feet (5 to 500 m)  
*Parent material:* silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* very high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 10.2 inches (26 cm)  
*Vegetation:* white spruce forest and woodland, bluejoint reedgrass grassland, tall alder scrub  
*Representative profile:*  
 Oi—0 to 3 inches (0 to 7 cm); slightly decomposed plant material, rapid permeability  
 A—3 to 6 inches (7 to 15 cm); silt loam, moderate permeability  
 E—6 to 7 inches (15 to 18 cm); silt loam, moderate permeability  
 Bhs—7 to 18 inches (18 to 46 cm); silt loam, moderate permeability  
 2C—18 to 60 inches (46 to 152 cm); very gravelly sandy loam, moderate permeability

### **Chugach and Similar Soils**

*Extent:* 20 to 60 percent of the map unit  
*Landform:* mountains  
*Slope shape:* concave or convex downslope; concave or convex across the slope  
*Slope range:* 10 to 70 percent  
*Slope length:* 16 to 1,640 feet (5 to 500 m)  
*Parent material:* silty loess over gravelly outwash  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 5.3 inches (13 cm)  
*Vegetation:* white spruce forest and woodland, bluejoint reedgrass grassland, tall alder scrub  
*Representative profile:*  
 Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability  
 E—3 to 4 inches (8 to 10 cm); silt loam, moderate permeability

Bhs—4 to 8 inches (10 to 20 cm); silt loam, moderate permeability  
 Bs—8 to 10 inches (20 to 25 cm); silt loam, moderate permeability  
 2C—10 to 60 inches (25 to 152 cm); very gravelly sand, rapid permeability

### ***Histic Cryaquepts and Similar Soils***

*Extent:* 0 to 20 percent of the map unit  
*Landform:* depressions on mountains  
*Slope shape:* concave down and across the slope  
*Slope range:* 10 to 20 percent  
*Slope length:* 16 to 164 feet (5 to 50 m)  
*Parent material:* silty alluvium over gravelly till  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* high  
*Drainage class:* poorly drained  
*Flooding:* none  
*Depth to high water table (approximate):* April–May—15 inches (38 cm); other months—18 inches (45 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 12.5 inches (32 cm)  
*Vegetation:* low ericaceous shrub-shrub birch scrub, sedge-grass meadow, low willow scrub  
*Representative profile:*  
 Oe—0 to 9 inches (0 to 23 cm); mucky peat, moderately rapid permeability  
 A—9 to 20 inches (23 to 51 cm); silt loam, moderate permeability  
 Bg—20 to 35 inches (51 to 89 cm); gravelly silt loam, moderate permeability  
 2Cg—35 to 60 inches (89 to 152 cm); very gravelly sandy loam, moderately rapid permeability

### ***Management Considerations***

*Soil-related factors:* slope, water table, excess organic matter, cobbles, high gravel content, high sand content, frost action, and permeability

## **460—Talkeetna-Chugach-Histic Cryaquepts association, cool, 10 to 70 percent slopes**

*Elevation:* 1,312 to 3,937 feet (400 to 1,200 m)  
*Mean annual precipitation:* 30 to 50 inches (76 to 127 cm)

*Frost-free period:* 65 to 107 days

### ***Talkeetna, cool, and Similar Soils***

*Extent:* 30 to 70 percent of the map unit  
*Landform:* mountains  
*Slope shape:* concave or convex downslope; concave or convex across the slope  
*Slope range:* 10 to 70 percent  
*Slope length:* 16 to 1,640 feet (5 to 500 m)  
*Parent material:* silty loess over gravelly till  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* very high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 10.2 inches (26 cm)  
*Vegetation:* tall alder scrub, bluejoint reedgrass grassland, low willow scrub  
*Representative profile:*  
 Oi—0 to 3 inches (0 to 7 cm); slightly decomposed plant material, rapid permeability  
 A—3 to 6 inches (7 to 15 cm); silt loam, moderate permeability  
 E—6 to 7 inches (15 to 18 cm); silt loam, moderate permeability  
 Bhs—7 to 18 inches (18 to 46 cm); silt loam, moderate permeability  
 2C—18 to 60 inches (46 to 152 cm); very gravelly sandy loam, moderate permeability

### ***Chugach, cool, and Similar Soils***

*Extent:* 20 to 60 percent of the map unit  
*Landform:* mountains  
*Slope shape:* concave or convex downslope; concave or convex across the slope  
*Slope range:* 10 to 70 percent  
*Slope length:* 16 to 1,640 feet (5 to 500 m)  
*Parent material:* silty loess over gravelly outwash  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none

*Available water capacity (approximate):* 5.3 inches (13 cm)

*Vegetation:* tall alder scrub, bluejoint reedgrass grassland, low willow scrub

*Representative profile:*

Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material, moderately rapid permeability

E—3 to 4 inches (8 to 10 cm); silt loam, moderate permeability

Bhs—4 to 8 inches (10 to 20 cm); silt loam, moderate permeability

Bs—8 to 10 inches (20 to 25 cm); silt loam, moderate permeability

2C—10 to 60 inches (25 to 152 cm); very gravelly sand, rapid permeability

### ***Histic Cryaquepts and Similar Soils***

*Extent:* 0 to 20 percent of the map unit

*Landform:* depressions on mountains

*Slope shape:* concave down and across the slope

*Slope range:* 10 to 20 percent

*Slope length:* 16 to 164 feet (5 to 50 m)

*Parent material:* silty alluvium over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* poorly drained

*Flooding:* none

*Depth to high water table (approximate):* April–May—15 inches (38 cm); other months—18 inches (45 cm)

*Ponding:* none

*Available water capacity (approximate):* 12.5 inches (32 cm)

*Vegetation:* low ericaceous shrub-shrub birch scrub, sedge-grass meadow, low willow scrub

*Representative profile:*

Oe—0 to 9 inches (0 to 23 cm); mucky peat, moderately rapid permeability

A—9 to 20 inches (23 to 51 cm); silt loam, moderate permeability

Bg—20 to 35 inches (51 to 89 cm); gravelly silt loam, moderate permeability

2Cg—35 to 60 inches (89 to 152 cm); very gravelly sandy loam, moderately rapid permeability

### ***Management Considerations***

*Soil-related factors:* slope, water table, excess organic matter, cobbles, high gravel content, high sand content, frost action, and permeability

### **461—Talkeetna-Deneka-Rock outcrop complex, 30 to 85 percent slopes**

*Elevation:* 738 to 2,953 feet (225 to 900 m)

*Mean annual precipitation:* 20 to 30 inches (51 to 76 cm)

*Frost-free period:* 85 to 120 days

### ***Talkeetna and Similar Soils***

*Extent:* 60 to 90 percent of the map unit

*Landform:* mountains

*Slope shape:* concave or convex downslope; concave or convex across the slope

*Slope range:* 30 to 85 percent

*Slope length:* 16 to 1,640 feet (5 to 500 m)

*Parent material:* silty loess over gravelly till

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* very high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 10.2 inches (26 cm)

*Vegetation:* mixed paper birch-white spruce forest, mixed paper birch-quaking aspen forest

*Representative profile:*

Oi—0 to 3 inches (0 to 7 cm); slightly decomposed plant material, rapid permeability

A—3 to 6 inches (7 to 15 cm); silt loam, moderate permeability

E—6 to 7 inches (15 to 18 cm); silt loam, moderate permeability

Bhs—7 to 18 inches (18 to 46 cm); silt loam, moderate permeability

2C—18 to 60 inches (46 to 152 cm); very gravelly sandy loam, moderate permeability

### **Deneka and Similar Soils**

*Extent:* 5 to 25 percent of the map unit  
*Landform:* mountains  
*Slope shape:* concave or convex downslope; concave or convex across the slope  
*Slope range:* 30 to 85 percent  
*Slope length:* 16 to 1,640 feet (5 to 500 m)  
*Parent material:* ash influenced loess over gravelly till  
*Depth to bedrock (lithic):* 16 to 26 inches (40 to 66 cm)  
*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe  
*Runoff:* very high  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 6.1 inches (16 cm)  
*Vegetation:* mixed paper birch-white spruce forest  
*Representative profile:*  
 Oe—0 to 2 inches (0 to 5 cm); moderately decomposed plant material, moderately rapid permeability  
 E—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability  
 Bh<sub>s</sub>—4 to 17 inches (10 to 43 cm); silt loam, moderate permeability  
 2BC—17 to 22 inches (43 to 56 cm); very cobbly sandy loam, moderate permeability  
 3R—22 inches (56 cm); bedrock, impermeable

### **Rock outcrop**

*Extent:* 1 to 20 percent of the map unit  
*Landform:* mountains  
*Slope shape:* convex or linear downslope; convex or linear across the slope  
*Slope range:* 30 to 85 percent  
*Note:* rock outcrop consists of exposures of bare bedrock, other than lava flows and rock-lined pits.

### **Minor Components**

Histic Cryaquepts and similar soils: 0 to 10 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, cobbles, high gravel content, frost action, and permeability

### **462—Typic Cryaquept and Typic Cryaquept soils, 0 to 2 percent slopes**

*Elevation:* 0 to 49 feet (0 to 15 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### **Typic Cryaquepts, tidal flats, and Similar Soils**

*Extent:* 70 to 100 percent of the map unit  
*Landform:* tidal flats  
*Slope shape:* linear down and across the slope  
*Slope range:* 0 to 2 percent  
*Slope length:* 164 to 13,123 feet (50 to 4,000 m)  
*Parent material:* silty marine deposits  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe  
*Runoff:* very high  
*Drainage class:* very poorly drained  
*Flooding:* very frequent  
*Depth to high water table (approximate):* 2 inches (5 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 12.9 inches (33 cm)  
*Vegetation:* sparse halophytic herbs  
*Representative profile:*  
 Cg<sub>1</sub>—0 to 16 inches (0 to 41 cm); silt loam, moderate permeability  
 Cg<sub>2</sub>—16 to 21 inches (41 to 53 cm); silt loam, moderate permeability  
 Cg<sub>3</sub>—21 to 60 inches (53 to 152 cm); silt loam, moderate permeability

### **Typic Cryaquepts, beach terrace, and Similar Soils**

*Extent:* 0 to 40 percent of the map unit  
*Landform:* beach terraces  
*Slope shape:* linear down and across the slope  
*Slope range:* 0 to 2 percent  
*Slope length:* 164 to 2,953 feet (50 to 900 m)

*Parent material:* coarse-silty marine deposits  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe  
*Runoff:* very high  
*Drainage class:* very poorly drained  
*Flooding:* rare  
*Depth to high water table (approximate):* 6 inches (15 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 13.0 inches (33 cm)  
*Vegetation:* halophytic sedge-grass meadow, tall alder-willow scrub  
*Representative profile:*  
 Ag—0 to 30 inches (0 to 75 cm); silt loam, moderate permeability  
 Bg—30 to 38 inches (75 to 97 cm); silt loam, moderate permeability  
 Cg—38 to 60 inches (97 to 152 cm); silt loam, moderate permeability

#### **Minor Components**

Water, saline: 0 to 10 percent of the map unit

#### **Management Considerations**

*Soil-related factors:* flooding, water table, frost action, and permeability

#### **463—Water, fresh**

*Elevation:* 0 to 3,609 feet (0 to 1,100 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

#### **Water**

*Extent:* 85 to 100 percent of the map unit  
*Landform:* lakes and ponds

#### **Minor Components**

Riverwash: 0 to 20 percent of the map unit

#### **464—Water, saline**

*Elevation:* 0 to 16 feet (0 to 5 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

#### **Water, saline**

*Extent:* 85 to 100 percent of the map unit  
*Landform:* ocean

#### **Minor Components**

Typic Cryaquents, tidal flats, and similar soils: 0 to 10 percent of the map unit  
 Cryohemists, tidal flats, and similar soils: 0 to 5 percent of the map unit

#### **465—Whitsol silt loam, 0 to 3 percent slopes**

*Elevation:* 16 to 197 feet (5 to 60 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

#### **Whitsol and Similar Soils**

*Extent:* 80 to 90 percent of the map unit  
*Landform:* till plains  
*Slope shape:* convex down and across the slope  
*Slope range:* 0 to 3 percent  
*Slope length:* 49 to 279 feet (15 to 85 m)  
*Parent material:* silty volcanic ash over gravelly glacial drift  
*Hazard of erosion (organic mat removed):* by water—slight; by wind—severe  
*Runoff:* low  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 13.8 inches (35 cm)  
*Vegetation:* mixed paper birch-white spruce forest  
*Representative profile:*  
 Oe—0 to 2 inches (0 to 5 cm); moderately decomposed plant material, moderately rapid permeability  
 A—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability  
 E—4 to 7 inches (10 to 17 cm); silt loam, moderate permeability  
 Bs1—7 to 17 inches (17 to 43 cm); silt loam, moderate permeability

Bs2—17 to 35 inches (43 to 89 cm); silt loam, moderate permeability  
 2C—35 to 60 inches (89 to 152 cm); gravelly loam, moderately rapid permeability

### ***Minor Components***

Smithfha and similar soils: 5 to 15 percent of the map unit  
 Kashwitna and similar soils: 0 to 10 percent of the map unit  
 Disappear and similar soils: 0 to 5 percent of the map unit

### ***Management Considerations***

*Soil-related factors:* frost action and permeability

## **466—Whitsol silt loam, 3 to 7 percent slopes**

*Elevation:* 16 to 295 feet (5 to 90 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### ***Whitsol and Similar Soils***

*Extent:* 75 to 90 percent of the map unit  
*Landform:* till plains  
*Slope shape:* convex down and across the slope  
*Slope range:* 3 to 7 percent  
*Slope length:* 49 to 279 feet (15 to 85 m)  
*Parent material:* silty volcanic ash over gravelly glacial drift  
*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none  
*Available water capacity (approximate):* 13.8 inches (35 cm)  
*Vegetation:* mixed paper birch-white spruce forest  
*Representative profile:*  
 Oe—0 to 2 inches (0 to 5 cm); moderately decomposed plant material, moderately rapid permeability

A—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability  
 E—4 to 7 inches (10 to 17 cm); silt loam, moderate permeability  
 Bs1—7 to 17 inches (17 to 43 cm); silt loam, moderate permeability  
 Bs2—17 to 35 inches (43 to 89 cm); silt loam, moderate permeability  
 2C—35 to 60 inches (89 to 152 cm); gravelly loam, moderately rapid permeability

### ***Minor Components***

Smithfha and similar soils: 5 to 15 percent of the map unit  
 Disappear and similar soils: 1 to 15 percent of the map unit  
 Kashwitna and similar soils: 3 to 10 percent of the map unit

### ***Management Considerations***

*Soil-related factors:* slope, frost action, and permeability

## **467—Whitsol silt loam, 7 to 12 percent slopes**

*Elevation:* 16 to 262 feet (5 to 80 m)  
*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)  
*Frost-free period:* 105 to 135 days

### ***Whitsol and Similar Soils***

*Extent:* 80 to 90 percent of the map unit  
*Landform:* till plains  
*Slope shape:* convex down and across the slope  
*Slope range:* 7 to 12 percent  
*Slope length:* 49 to 279 feet (15 to 85 m)  
*Parent material:* silty volcanic ash over gravelly glacial drift  
*Hazard of erosion (organic mat removed):* by water—moderate; by wind—severe  
*Runoff:* medium  
*Drainage class:* well drained  
*Flooding:* none  
*Depth to high water table (approximate):* more than 72 inches (176 cm)  
*Ponding:* none

*Available water capacity (approximate):* 13.8 inches (35 cm)

*Vegetation:* mixed paper birch-white spruce forest

*Representative profile:*

Oe—0 to 2 inches (0 to 5 cm); moderately decomposed plant material, moderately rapid permeability

A—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

E—4 to 7 inches (10 to 17 cm); silt loam, moderate permeability

Bs1—7 to 17 inches (17 to 43 cm); silt loam, moderate permeability

Bs2—17 to 35 inches (43 to 89 cm); silt loam, moderate permeability

2C—35 to 60 inches (89 to 152 cm); gravelly loam, moderately rapid permeability

### **Minor Components**

Smithfha and similar soils: 5 to 15 percent of the map unit

Kashwitna and similar soils: 0 to 10 percent of the map unit

Disappear and similar soils: 0 to 5 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, frost action, and permeability

## **468—Whitsol silt loam, 12 to 20 percent slopes**

*Elevation:* 33 to 279 feet (10 to 85 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### **Whitsol and Similar Soils**

*Extent:* 80 to 90 percent of the map unit

*Landform:* hills

*Slope shape:* convex down and across the slope

*Slope range:* 12 to 20 percent

*Slope length:* 49 to 279 feet (15 to 85 m)

*Parent material:* silty volcanic ash over gravelly glacial drift

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 13.8 inches (35 cm)

*Vegetation:* mixed paper birch-white spruce forest

*Representative profile:*

Oe—0 to 2 inches (0 to 5 cm); moderately decomposed plant material, moderately rapid permeability

A—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

E—4 to 7 inches (10 to 17 cm); silt loam, moderate permeability

Bs1—7 to 17 inches (17 to 43 cm); silt loam, moderate permeability

Bs2—17 to 35 inches (43 to 89 cm); silt loam, moderate permeability

2C—35 to 60 inches (89 to 152 cm); gravelly loam, moderately rapid permeability

### **Minor Components**

Smithfha and similar soils: 5 to 15 percent of the map unit

Kashwitna and similar soils: 0 to 10 percent of the map unit

### **Management Considerations**

*Soil-related factors:* slope, frost action, and permeability

## **469—Whitsol silt loam, 20 to 45 percent slopes**

*Elevation:* 66 to 279 feet (20 to 85 m)

*Mean annual precipitation:* 14 to 20 inches (36 to 51 cm)

*Frost-free period:* 105 to 135 days

### **Whitsol and Similar Soils**

*Extent:* 80 to 90 percent of the map unit

*Landform:* hills

*Slope shape:* convex down and across the slope

*Slope range:* 20 to 45 percent

*Slope length:* 49 to 279 feet (15 to 85 m)

*Parent material:* silty volcanic ash over gravelly glacial drift

*Hazard of erosion (organic mat removed):* by water—severe; by wind—severe

*Runoff:* high

*Drainage class:* well drained

*Flooding:* none

*Depth to high water table (approximate):* more than 72 inches (176 cm)

*Ponding:* none

*Available water capacity (approximate):* 13.8 inches (35 cm)

*Vegetation:* mixed paper birch-white spruce forest

*Representative profile:*

Oe—0 to 2 inches (0 to 5 cm); moderately decomposed plant material, moderately rapid permeability

A—2 to 4 inches (5 to 10 cm); silt loam, moderate permeability

E—4 to 7 inches (10 to 17 cm); silt loam, moderate permeability

Bs1—7 to 17 inches (17 to 43 cm); silt loam, moderate permeability

Bs2—17 to 35 inches (43 to 89 cm); silt loam, moderate permeability

2C—35 to 60 inches (89 to 152 cm); gravelly loam, moderately rapid permeability

### ***Minor Components***

Smithfha and similar soils: 5 to 15 percent of the map unit

Kashwitna and similar soils: 0 to 10 percent of the map unit

### ***Management Considerations***

*Soil-related factors:* slope, frost action, and permeability

# Soil Properties

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Data relating to soil properties are collected during the course of the soil survey. Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

## Engineering Index Properties

Tables 5 and 6 give the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the USDA. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM,

2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches (75 mm) in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, SP-SM.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches (75 mm) in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

Liquid limit and plasticity index (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

Rock fragments larger than 10 inches (250 mm) in diameter and 3 to 10 inches (75 to 250 mm) in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches (75 mm) in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates

are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In [table 6](#), the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In [table 6](#), the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. The estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

## Physical Properties

[Table 7](#) shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field

observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Moist bulk density is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at  $1/3$ - or  $1/10$ -bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability ( $K_{sat}$ ) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity ( $K_{sat}$ ). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at  $1/3$ - or  $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change

for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 7, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tillage. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in table 7 as the K factor (K<sub>w</sub> and K<sub>f</sub>) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor K<sub>w</sub> indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor K<sub>f</sub> indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least

susceptible. Soils are grouped according to the amount of stable aggregates more than 0.84 millimeter in size. Soils containing rock fragments can occur in any group. The groups are as follows:

1 to 9 percent dry soil aggregates. These soils are very highly erodible. Crops can be grown if intensive measures to control wind erosion are used.

10 to 24 percent dry soil aggregates. These soils are highly erodible. Crops can be grown if intensive measures to control wind erosion are used.

25 to 39 percent dry soil aggregates. These soils are erodible. Crops can be grown if intensive measures to control wind erosion are used.

25 to 39 percent dry soil aggregates with > 35 percent clay or > 5 percent calcium carbonate. These soils are moderately erodible. Crops can be grown if measures to control wind erosion are used.

40 to 44 percent dry soil aggregates. These soils are slightly erodible. Crops can be grown if measures to control wind erosion are used.

45 to 49 percent dry soil aggregates. These soils are very slightly erodible. Crops can easily be grown.

50 percent or more dry soil aggregates. These soils are very slightly erodible. Crops can easily be grown.

Stony, gravelly, or wet soils and other soils not subject to wind erosion.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

## Chemical Properties

Table 8 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated

pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

## Water Features

Table 9 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

*Hydrologic soil groups* are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the

surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

*Wet soil* refers to a saturated zone in the soil. Table 9 indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered. *Water table kind* is also indicated.

*Ponding* is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 9 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

*Flooding* is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

*Duration* and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year);

*occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods is also considered. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

## Soil Features

Table 10 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation.

*Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

*Subsidence* is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected *initial* subsidence,

which usually is a result of drainage, and *total* subsidence, which results from a combination of factors.

*Potential for frost action* is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures. The potential for frost action is expressed as *low*, *moderate*, or *high*.

*Risk of corrosion* pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For *uncoated steel*, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For *concrete*, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.



# Use and Management of the Soil

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This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, foresters, botanists, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreation facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, permafrost, or unstable soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, and trails.

## Horticulture

The soil resource has a wide range of characteristics that influence the potential for landscaping and gardening. A thorough

understanding of soil properties can ensure successful plantings and improve or maintain the urban landscape. The site is critical to the success of horticultural plantings. This is true for commercial horticultural operations, large landscapes such as parks and other urban settings, and landscapes for private residences. The two most important environmental considerations in selecting ornamental or vegetable plants are climate and soils.

## Climate

The Anchorage Area enjoys a maritime influenced climate that creates a more moderate environment for many plants than some midwestern states. Plants that are unsuitable for northern and interior Alaska thrive in the Anchorage area. Precipitation, day length, sun exposure, the number of frost-free days and other climate factors also influence plant growth and survival. The Alaska Cooperative Extension can provide guidance in selecting and growing plants in your area.

## Soil

The second most important consideration affecting plant selection is soils. Alaskan soils have five characteristics that influence plant selection and management of the site. Soil temperature, soil pH (a measure of acidity or alkalinity), the inherent soil fertility, slope and drainage, and water infiltration rates and moisture-holding capacity.

## Soil Temperature

Typically, soils in the Anchorage area are cool which limits the species and varieties of plants that can be grown. The cool soil temperatures limit rooting depth and can inhibit germination of direct seeded plants such as grasses. In most parts of Alaska cold soil temperatures restrict root growth to at or near the soil surface. Roots tend to be found in the upper eight to twelve inches of the soil. This restriction of root growth can severely limit a plants ability to take up water and nutrients. Burying roots

with fill material will lower the soil temperature around the roots and may damage or even kill trees and shrubs. Adding over an inch of fill within the drip line of existing trees and shrubs will reduce the soil temperature around the roots. The roots will not be able to take up adequate water and nutrients and eventually the plant will die.

Shallow roots results in poor anchoring for taller trees. Windthrow can be a problem particularly for trees left on site after clearing of the surrounding trees. Deprived of the protection previously provided by neighboring trees, exposed plants may blow over in high winds.

### **Soil pH**

Soil pH is generally low and may require liming to bring the soil closer to neutral (pH 7). Most plants do well at pH of 6.0 to 7.5 but some plants can tolerate a wider range of soil pH and some plants do better under acidic soil conditions. Before adding a plant to your landscape, check to see what pH range it will grow in. Recommendations based on soil test results from the Alaska Cooperative Extension will tell you if your soil requires lime. Commercial topsoil may also require liming. If adding lime is not feasible, select plants that are adapted to acidic conditions.

### **Fertilizer Requirements and Soil Amendments**

The soils of the Anchorage area are low in natural fertility. Native plants may do well under these conditions, but the addition of commercial or organic fertilizer is usually required for non-native plants to thrive. Soil tests are recommended on a regular schedule to monitor the fertility of the soil. Soil analysis should include the macronutrients nitrogen, phosphorus, and potassium (N-P-K). Fertilizers should be applied at the correct rate to ensure good plant growth. Avoid applying excessive fertilizer, which may leach into groundwater, or be transported to streams and lakes in runoff. Working fertilizers into the soil can prevent runoff and volatilization (loss of nitrogen to the air) that wastes money and has a negative impact on the environment. Many organic fertilizers also improve soil tilth and are a good source of micronutrients. Fertilizer recommendations for farms, gardens, and landscaping are available through the Alaska Cooperative Extension.

Many soils will benefit from the addition of organic matter. The organic layer of the soil is frequently removed during construction and the remaining soil may need to be supplemented with topsoil, peat, manure or compost. Most topsoil purchased in Anchorage has been mixed, screened and shredded and contains 40 to 60 percent organic matter by volume. Organic matter is important for soils because it increases nutrient and water holding capacity.

### **Surface Runoff, Water Infiltration, and Drainage**

Slope and drainage should also be considered in landscape planning. Manage the landscape to control erosion and provide adequate drainage for rain and snowmelt. Surface drainage should be away from structures. On wet or frequently flooded sites there may be wetland restrictions on how the site can be utilized. The soil survey can provide general information regarding drainage, flooding, and water management but an onsite evaluation of the property by a qualified professional is recommended. Assistance in interpreting the soil survey is available from your local Soil and Water Conservation District or the Natural Resources Conservation Service.

### **Irrigation and Water Management**

Anchorage has an average annual precipitation of 16 inches. Most plants will grow better with irrigation and, with adequate water, will make better use of the available plant nutrients. If the water infiltration rate or the soil moisture holding capacity is not adequate, soil amendments such as organic matter or sand, can be added to improve the soil tilth. The addition of organic matter to the soil will increase its ability to hold water and nutrients. If gardening on purchased topsoil, the addition of peat or other organic matter may not be necessary because the organic matter content is already high. Mulches and weed control mats can help retain soil moisture. You can also manage your site to hold water on the surface and increase infiltration. If your garden or landscape is on a slope, small terraces, furrows, or simply planting on the contour can break up the slope and allow water time to infiltrate. Many of the practices used to retain soil moisture may have other effects that can be detrimental. Before using methods described here or in gardening books

written for warmer climates, consult local experts such as Master Gardeners, the Alaska Cooperative Extension, and plant nurseries.

## Growing and Using Native Plants

Many Alaskans have traditionally used native plants for food, medicine, and fiber. The use of plants such as berries, mushrooms, birch bark, and herbs continues to be an important tradition and recreational activity. Native plant parts can be gathered from the wild or plants can be used in gardens and landscaping. Make sure you have permission before harvesting plants or plant parts on public or private land. When developing land, consider managing the native plants such as berries, trees, and flowering or attractive shrubs as part of the landscaping. Native plants are well adapted to the climate and frequently do better with less maintenance than exotic species. Use of native plants in landscaping preserves some native habitat for birds and other wildlife. It is important to protect the stems and roots of any plants to be retained on a construction site. For more information about growing and using native plants consult the Alaska Cooperative Extension, local Alaska native groups, and other ethnic organizations.

## Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. The soils in each capability class or subclass is shown in [table 11](#). Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive land forming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit ([USDA, 1961](#)). Only capability class and subclass are presented for soils in Alaska.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use. There are no Class 1 soils in Alaska due to the climate.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, e, w, s, or c, to the class numeral, for example, 2e. The letter e shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; w shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); s shows that the soil is limited mainly because it is shallow, droughty, or stony; and c, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by w, s, or c because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

## Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. Other tables indicate the suitability of the soils for use as source materials. The ratings in these tables are both verbal and numerical.

### Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited*, *somewhat limited*, and *very limited*. The suitability ratings are expressed as *source*, *probable source*, and *improbable source* or as *good*, *fair*, and *poor*. In some tables, *slight*, *moderate*, and *severe* are used to describe the degree to which certain soil features or site characteristics result in limitations that affect a specified use of the soil.

### Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. The numerical ratings, as they relate to each specific interpretation, are explained in the sections that follow.

## Recreation

The soils of the survey area are rated in [table 12](#) according to limitations that affect their suitability for recreation. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one

or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicates the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00). If the soil is *not limited* (value = 0.00), no entry appears for the numerical value.

The ratings in the table are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality and vegetation.

The information in table 12 can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

*Camp areas* require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Picnic areas* are subject to heavy foot traffic. Most vehicular traffic is confined to access roads

and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Playgrounds* require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Foot and ATV trails* for hiking, horseback riding, and ATV use should require little or no slope modification and site preparation through cutting and filling. These trails are not covered with surfacing material or vegetation. The ratings are based on the soil properties that affect trafficability, erodibility, dustiness, and the ease of revegetation. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

## Engineering

This section provides information for planning land uses related to building sites. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, and construction materials. The ratings are based on observed performance of the soils and on the estimates given under the heading "Soil Properties".

*Information in this section is intended for land use planning, for evaluating land use alternatives, and*

*for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet (1.5 to 2.1 m). Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.*

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet (1.5 to 2.1 m) of the surface, soil wetness, depth to water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

## Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 13 and 14 show the degree and kind of soil limitations that affect structures and site improvements, including dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical values in the tables indicate the severity of individual limitations. The values are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00). If the soil is not limited (value = 0.00), no entry appears for the numerical value.

*Dwellings* are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet (0.6 m) or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet (2.1 m). The ratings for dwellings are based on the soil properties that affect the capacity of the soil to

support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock, permafrost, or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Small commercial buildings* are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet (0.6 m) or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock, permafrost, or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Local roads and streets* have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet (1.5 or 1.8 m) for

graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock, permafrost, or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

*Lawns, landscaping and golf fairways* require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches (101 cm); the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

## Sanitary Facilities

Tables 15 and 16 show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical values in the tables indicate the severity of individual limitations. The values are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00). If the soil is not limited (value = 0.00), no entry appears for the numerical value.

*Septic tank absorption fields* are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 4 and 6 feet (1.2 and 1.8 m) is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock, permafrost, or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet (1.2 m) below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

*Sewage lagoons* are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock, permafrost, or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches (5 cm) per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination

of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches (102 cm), if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet (0.6 m) thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock, permafrost, or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet (1.8 m). For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter,

and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet (0.6 m) thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock, permafrost, or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

*Daily cover for landfill* is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

## Construction Materials

Tables 17 and 18 give information about the soils as potential sources of gravel, sand, topsoil, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

In table 17 the soils are rated as a *probable* or *improbable* source of sand and gravel. A rating of *probable* means that the source material is likely to be in or below the soil. The numerical ratings in these columns indicate the degree of probability. The number 0.00 indicates that the soil is an improbable source. A number between 0.00 and 1.00 indicates the degree to which the soil is a probable source of sand or gravel.

*Sand* and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 17, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the lowest layer of the soil contains sand or gravel, the soil is rated as a probable source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

In table 18 the soils are rated *good*, *fair*, or *poor* as potential sources of topsoil, and roadfill. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil or roadfill. The lower the number, the greater the limitation. Only material in suitable quantity is evaluated.

*Topsoil* is used to cover an area so that vegetation can be established and maintained. The upper 40 inches (102 cm) of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water

capacity and fertility, affect plant growth. Rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material affect the ease of excavating, loading and spreading. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

*Roadfill* is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet (1.8 m) high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet (1.5 m). It is assumed that soil layers will be during excavating and spreading.

The ratings are based on the amount of suitable material and on soil properties affecting the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. Large stones, depth to a water table, and slope affect the ease of excavation. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential). Susceptibility to frost action is also considered. The soils are rated based on the most limiting layers. Often a soil will have finer textured upper layers that are affected by frost action, while coarser textured lower layers in the same soil may not be affected.

## Hydric Soils

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species.

Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in *Soil Taxonomy* (Soil Survey Staff, 1999) and *Keys to Soil Taxonomy* (Soil Survey Staff, 1998) and in the *Soil Survey Manual* (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in *Field Indicators of Hydric Soils in the United States* (Hurt and others, 1998).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches (50 cm). This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Those soils that meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators, are listed in table 19. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a

specific site (National Research Council, 1995; Hurt and others, 1998).

Some map units consist almost entirely of hydric soils, such as map unit 417—Doroshin peat, 0 to 7 percent slopes, (in which all listed components are hydric). Other map units consist primarily of non-hydric soils, such as map unit 400—Anchorpark loamy very fine sand, 30 to 85 percent slopes, (in which all listed components are non-hydric), or map unit 470—Whitsol silt loam, 3 to 7 percent slopes, (in which hydric soils are present only as minor components). Hydric soils may occur as minor inclusions even in map units listed without any hydric soils in table 19.

Table 19 also lists the local landform on which each soil occurs, the hydric criteria code, and whether or not each soil meets the saturation, flooding, or ponding criteria for hydric soils. Codes for hydric soil criteria are explained in the following key:

### Key To Hydric Soil Criteria

1. All Histosols except Folist, or
2. Soils in Aquic suborders, Aquic subgroups, Albolls suborder, Salorthids great group, Pell great groups of Vertisols, Pachic subgroups, or cumulic subgroups that are:
  - a. somewhat poorly drained and have a frequently occurring water table at less than 0.5 foot from the surface for a significant period (usually more than 2 weeks) during the growing season, or
  - b. poorly drained or very poorly drained and have either:
    - (1) a frequently occurring water table at less than 0.5 foot from the surface for a significant period (usually more than 2 weeks) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or for other soils
    - (2) a frequently occurring water table at less than 1.0 foot from the surface for a significant period (usually more than 2 weeks) during the growing season if permeability is equal to or greater than 6.0 inches/hour in all layers within a depth of 20 inches, or
    - (3) a frequently occurring water table at less than 1.5 feet from the surface for a significant period (usually more than 2 weeks) during the growing season if permeability is less than 6.0 inches/hour in any layer within a depth of 20 inches, or

3. Soils that are frequently ponded for a long duration or a very long duration during the growing season, or

4. Soils that are frequently flooded for a long duration or a very long duration during the growing season.



# Classification of the Soils

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The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1998 and 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 20 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

**ORDER.** Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in sol. An example is spodosol.

**SUBORDER.** Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is cryod (cry, meaning cold, plus od, from spodosol).

**GREAT GROUP.** Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is haplocryods (haplo, meaning low minimal horizonation, plus cryod, the suborder of the spodosols that has a cryic temperature regime).

**SUBGROUP.** Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of

the great group. The adjective typic identifies the subgroup that typifies the great group. An example is Typic Haplocryods.

**FAMILY.** Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, cation-exchange activity class, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is loamy-skeletal mixed, superactive Typic Haplocryods.

**SERIES.** The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. An example from this survey area is the Deception series.

## Taxonomic Units and Their Morphology

In this section, the taxonomic units recognized in the survey area are described. Characteristics of the soil and the material in which it formed are identified for each taxonomic unit. A pedon, a small three-dimensional area of soil, that is typical of the taxonomic unit in the survey area is described. The detailed description of each soil horizon follows standards in the *Soil Survey Manual* (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in *Soil Taxonomy* (Soil Survey Staff, 1999) and in *Keys to Soil Taxonomy* (Soil Survey Staff, 1998). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the taxonomic unit.

## Anchorpark Series

### ***Taxonomic Classification***

- Sandy, mixed Typic Dystricrypts

*Depth class:* very deep

*Drainage class:* somewhat excessively drained

*Parent material:* eolian sands

*Landform:* dunes

*Slope:* 0 to 85 percent

*Elevation:* 16 to 279 feet

*Precipitation:* 14 to 20 inches

*Mean annual temperature:* 35 degrees F

### ***Typical Pedon Location***

*Map unit in which located:* 400-Anchorpark loamy very fine sand, 30 to 85 percent slopes in the Anchorage Area Soil Survey

*Location in the survey area:* NE¼SE¼, Section 6, T12N, R4W, Seward Meridian

### ***Typical Pedon***

- Oe—0 to 1 inch (0 to 3 cm); moderately decomposed plant material; strongly acid (pH 5.1); abrupt smooth boundary.
- E—1 to 4 inches (3 to 10 cm); grayish brown (10YR 5/2) loamy very fine sand; weak fine granular structure; very friable, nonsticky and nonplastic; few very fine, fine, medium, and coarse roots; strongly acid (pH 5.4); abrupt smooth boundary.
- Bw1—4 to 9 inches (10 to 23 cm); dark yellowish brown (10YR 4/6) loamy very fine sand; weak fine subangular blocky structure; very friable, nonsticky and nonplastic; few very fine, fine, medium, and coarse roots; moderately acid (pH 5.7); clear smooth boundary.
- Bw2—9 to 14 inches (23 to 36 cm); dark yellowish brown (10YR 3/4) fine sand; weak very fine subangular blocky structure; very friable, nonsticky and nonplastic; few very fine, fine, and medium roots; moderately acid (pH 5.9); clear smooth boundary.
- C—14 to 60 inches (36 to 152 cm); very dark grayish brown (2.5Y 3/2) fine sand; single grain; very friable, nonsticky and nonplastic; slightly acid (pH 6.3).

### ***Range In Characteristics***

*E horizon:*

Color—value of 4 or 5; chroma of 1 or 2

Texture—loamy very fine sand, very fine sand, or fine sand

Reaction—strongly acid or moderately acid

*Bw horizons:*

Color—hue of 10YR or 2.5Y; value of 3 or 4; chroma of 3 to 6

Texture—loamy very fine sand, fine sand, or very fine sand

Reaction—moderately acid or slightly acid

*C horizon:*

Color—value of 2 or 3; chroma of 1 to 3

Texture—very fine sand, fine sand, or sand

## Andic Humicryods

### ***Taxonomic Classification***

- Andic Humicryods

*Depth class:* very deep

*Drainage class:* well drained

*Parent material:* ash influenced loess over till and colluvium

*Landform:* mountains

*Slope:* 25 to 85 percent

*Elevation:* 1,312 to 4,429 feet

*Precipitation:* 30 to 50 inches

*Mean annual temperature:* 34 degrees F

### ***Representative Pedon Location***

*Map unit in which located:* 401-Andic Humicryods-Rock outcrop association, 25 to 85 percent slopes in the Anchorage Area Soil Survey

*Location in the survey area:* NE¼SE¼, Section 31, T14N, R1W, Seward Meridian; 4 miles south of Eagle River, Alaska

### ***Representative Pedon***

- Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material; very strongly acid (pH 4.7); abrupt smooth boundary.

E1—3 to 4 inches (8 to 10 cm); dark gray (10YR 4/1) silt loam; weak fine subangular block structure; friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; smeary; strongly acid (pH 5.2); abrupt smooth boundary.

E2—4 to 5 inches (10 to 13 cm); light gray (10YR 7/1) silt loam; weak fine subangular blocky structure; friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; smeary; strongly acid (pH 5.2); abrupt smooth boundary.

Bhs1—5 to 13 inches (13 to 33); very dark brown (7.5YR 2.5/2) silt loam; weak fine subangular blocky structure; friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; smeary; strongly acid (pH 5.2); clear smooth boundary.

Bhs2—13 to 20 inches (33 to 51 cm); dark brown (7.5YR 3/3) silt loam; weak fine subangular blocky structure; friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; smeary; strongly acid (pH 5.2); abrupt smooth boundary.

2C—20 to 60 inches (51 to 152 cm); pale brown (10YR 6/3), very gravelly fine sandy loam; massive; very friable, nonsticky and nonplastic; 30 percent gravel and 10 percent cobbles; moderately acid (pH 5.8).

### **Range In Characteristics**

*Depth to the very gravelly outwash:* 15 to 20 inches

#### *E horizon:*

Color—hue of 7.5YR or 10YR; value of 4 to 7; chroma of 1 or 2

Texture—silt loam or very fine sandy loam

Reaction—strongly acid or moderately acid

#### *Bhs horizons:*

Color—hue from 5YR or 7.5YR; value of 2 or 3; chroma of 2 or 3

Texture—silt loam or very fine sandy loam

Coarse fragment content—5 to 25 percent gravel and 5 to 10 percent cobbles

Reaction—strongly acid or moderately acid

#### *2C horizon:*

Color—hue of 10YR or 2.5Y; value of 3 to 6; chroma of 3 to 6

Texture—loam, fine sandy loam, or sandy loam

Coarse fragment content—5 to 45 percent cobbles and 0 to 3 percent stones

Reaction—moderately acid or slightly acid

## **Chugach Series**

### ***Taxonomic Classification***

- Sandy-skeletal, mixed Andic Humicryods

*Depth class:* very deep

*Drainage class:* well drained

*Parent material:* ash influenced loess overlying very gravelly glacial outwash

*Landform:* mountains and structural benches

*Slope:* 3 to 85 percent

*Elevation:* 738 to 3,937 feet

*Precipitation:* 20 to 50 inches

*Mean annual temperature:* 34 degrees F

### ***Typical Pedon Location***

*Map unit in which located:* 459-Talkeetna-Chugach-Histic Cryaquepts association, 10 to 70 percent slopes in the Anchorage Area Soil Survey

*Location in the survey area:* SE¼NW¼, Section 10, T15N, R1E, Seward Meridian; 8 miles east of Eklutna Lake campground in Thunderbird Valley, Alaska

### ***Typical Pedon***

Oe—0 to 2 inches (0 to 5 cm); moderately decomposed plant material; very strongly acid (pH 4.5); abrupt smooth boundary.

Oa—2 to 3 inches (5 to 8 cm); highly decomposed plant material; very strongly acid (pH 4.5); abrupt smooth boundary.

E—3 to 4 inches (8 to 10 cm); brown (7.5YR 5/2) silt loam; weak fine granular structure; very friable, slightly sticky and slightly plastic; common fine and medium roots; smeary; strongly acid (pH 5.4); abrupt smooth boundary.

Bhs—4 to 8 inches (10 to 20 cm); dark brown (7.5YR 3/3) silt loam; weak fine granular structure; very friable, slightly sticky and slightly plastic; few fine roots; smeary; strongly acid (pH 5.2); clear smooth boundary.

Bs—8 to 10 inches (20 to 25 cm); brown (7.5YR 4/4) silt loam; weak fine granular structure; very friable, slightly sticky and slightly plastic; few

fine roots; slightly smeary; strongly acid (pH 5.2); clear smooth boundary.

2C—10 to 60 inches (25 to 152 cm); very dark grayish brown (10YR 3/2) extremely gravelly loamy sand; massive; friable, nonsticky and nonplastic; 65 percent subrounded gravel; slightly acid (pH 6.4).

### **Range In Characteristics**

*Depth to very gravelly outwash:* 8 to 11 inches

*Coarse fragment content in the solum:* 0 to 10 percent gravel and 0 to 5 percent cobbles

#### *E horizon:*

Color—hue of 7.5YR or 10YR; value of 3 to 5; chroma of 1 or 2

Texture—silt, silt loam, or very fine sandy loam

Reaction—strongly acid or moderately acid

#### *Bhs horizon:*

Color—hue of 5YR or 7.5YR; value of 2 or 3; chroma of 1 to 3

Texture—silt loam or very fine sandy loam

Reaction—strongly acid or moderately acid

#### *Bs horizons:*

Color—hue of 5YR or 7.5YR; value and chroma of 3 or 4

Texture—silt loam or very fine sandy loam

Reaction—strongly acid or moderately acid

#### *2C horizon:*

Color—hue of 10YR or 2.5Y; value of 4 or 5; chroma of 2 or 3

Texture—loamy sand or sand

Coarse fragment content—0 to 20 percent cobbles and 0 to 3 percent stones

Reaction—moderately acid or slightly acid

## **Clam Gulch Series**

### **Taxonomic Classification**

- Fine-silty, mixed, nonacid Humic Cryaquepts

*Depth class:* very deep

*Drainage class:* poorly drained

*Parent material:* colluvial or alluvial material derived from till or glacial drift

*Landform:* valley bottoms, depressions on till plains, or the borders of lakes and bogs

*Slope:* 0 to 30 percent

*Elevation:* 33 to 1,476 feet

*Precipitation:* 14 to 22 inches

*Mean annual temperature:* 35 degrees F

### **Typical Pedon Location**

*Map unit in which located:* Ca-Clam Gulch silt loam, 0 to 3 percent slopes in the Kenai-Kasilof Area Soil Survey

*Location in the survey area:* SW¼NE¼, Section 23, T4N, R11W, Seward Meridian

### **Typical Pedon**

Oi—0 to 3 inches (0 to 8 cm); slightly decomposed plant material; extremely acid (pH 3.7); abrupt smooth boundary.

A1—3 to 7 inches (8 to 18 cm); dark reddish brown (5YR 2/2) silt loam; weak fine subangular blocky structure; nonsticky; many roots; thin layer of volcanic ash; very strongly acid (pH 4.7); clear wavy boundary.

A2—7 to 15 inches (18 to 38 cm); dark reddish brown (5YR 3/2) silt loam; massive; nonsticky; few roots; few small pebbles; patches and streaks of brown (10YR 4/3) at bottom of horizon; strongly acid (pH 5.3); abrupt smooth boundary (4 to 8 inches thick).

2Cg—15 to 60 inches (38 to 152 cm); olive (5Y 5/3) silty clay loam; massive; firm; sticky; few roots; many small irregular vesicles with smooth shiny sides; common small pebbles; moderately acid (pH 5.8).

### **Range In Characteristics**

*Depth to till or glacial drift:* 15 to 25 inches

#### *A horizon:*

Color—hue of 5YR to N; value of 2 or 3; chroma of 0 to 2

Reaction—extremely acid to strongly acid

#### *Bg horizon (where present):*

Color—value of 4 or 5

Texture—silty clay loam or silt loam

#### *2Cg horizon:*

Color—hue of 10YR to 5Y; value of 4 or 5; chroma of 1 to 3

Texture—silty clay loam, silt loam, or sandy loam with lenses and pockets of fine sand; coarse gravelly layer below depths of 40 inches  
 Reaction—moderately acid or slightly acid

## Cryorthents

### ***Taxonomic Classification***

- Cryorthents

*Depth class:* very deep  
*Drainage class:* well drained or somewhat excessively drained  
*Landform:* marine terraces, outwash plains, till plains, and escarpments  
*Parent material:* glacial sediments and marine deposits  
*Elevation:* 0 to 1,968 feet  
*Slope:* 0 to 90 percent  
*Precipitation:* 14 to 20 inches  
*Mean annual temperature:* 35 degrees F

### ***Representative Pedon Location***

*Map unit in which located:* 407-Cryorthents and Urban land, 5 to 20 percent slopes in the Anchorage Area Soil Survey  
*Location in the survey area:* SW¼SE¼, Section 36, T15N, R2W, Seward Meridian; one-half mile south of Lower Fire Lake, Alaska

### ***Representative Pedon***

C—0 to 60 inches (0 to 152 cm); dark grayish brown (10YR 4/2), extremely gravelly sandy loam; massive, friable, nonsticky and nonplastic; 55 percent gravel, 10 percent cobbles; moderately acid (pH 6.0).

### ***Range in Characteristics***

#### *C horizons:*

Color—hue of 10YR to 5Y; chroma of 1 or 2

Texture—silt loam, silty clay loam, sandy loam, loamy sandy

Coarse fragment content—0 to 60 percent gravel, 0 to 45 percent cobbles, and 0 to 3 percent stones

Reaction—moderately acid to neutral

*Other:* some pedons have Oi horizons

## Cryosaprists

### ***Taxonomic Classification***

- Cryosaprists

*Depth class:* very deep  
*Drainage class:* very poorly drained  
*Parent material:* organic material  
*Landform:* salt marshes  
*Slope:* 0 to 1 percent  
*Elevation:* 0 to 23 feet  
*Precipitation:* 14 to 20 inches  
*Mean annual temperature:* 35 degrees F

### ***Representative Pedon Location***

*Map unit in which located:* 404-Cryosaprists, 0 to 1 percent slopes in the Anchorage Area Soil Survey  
*Location in the survey area:* SW¼SW¼, Section 6, T15N, R1W, Seward Meridian; one-quarter mile west of Birchwood Airport, Alaska

### ***Representative Pedon***

Oi—0 to 22 inches (0 to 56 cm); dark gray (N 4/0) peat; 90 percent fibers unrubbed, 85 percent fibers rubbed; fibers are coated with a thin layer of tidal soil material; moderately alkaline (pH 8.0); clear smooth boundary.  
 Oa—22 to 53 inches (56 to 135 cm); dark gray (N 4/0) muck; 30 percent fibers unrubbed, 10 percent fibers rubbed; fibers are coated with a thin layer of tidal soil material; moderately alkaline (pH 8.0); clear smooth boundary.  
 Oe—53 to 60 inches (135 to 152 cm); gray (N 5/0) mucky peat; 80 percent fiber unrubbed, 65 percent fibers rubbed; moderately alkaline (pH 8.0).

### ***Range in Characteristics***

*Depth to mineral soil:* 30 to greater than 60 inches

*Thickness of fibric soil material:* 0 to 22 inches

*Thickness of sapric material:* 25 to 40

*Thickness of hemic soil material:* 10 to 25 inches

#### *O horizons:*

Color—hue of 10YR or N; value of 0 to 5; chroma of 0 to 2

Texture—peat, mucky peat, or muck

## Deception Series

### *Taxonomic Classification*

- Loamy-skeletal, mixed, superactive Typic Haplocryods

*Depth class:* very deep

*Drainage class:* well drained

*Parent material:* ash influenced loess over gravelly till

*Landform:* glacial till plains and hills

*Slope:* 0 to 85 percent

*Elevation:* 66 to 1,968 feet

*Precipitation:* 14 to 20 inches

*Mean annual temperature:* 35 degrees F

### *Typical Pedon Location*

*Map unit in which located:* 124-Deception silt loam, steep and sloping in the Matanuska-Susitna Valley Area Soil Survey

*Location in the survey area:* Southeast corner of Section 28, T15N, R4W, Seward Meridian; 10 miles southwest of Knik village, Alaska

### *Typical Pedon*

Oi—0 to 4 inches (0 to 10 cm); slightly decomposed plant material; very strongly acid (pH 4.5); abrupt smooth boundary.

E—4 to 5 inches (10 to 13 cm); dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; very friable, nonsticky and nonplastic; many very fine, fine, medium and coarse roots; strongly acid (pH 5.4); abrupt wavy boundary.

Bs—5 to 9 inches (13 to 23 cm); brown (7.5YR 4/4) silt loam; weak fine granular structure; very friable, nonsticky and nonplastic; many very fine, fine, medium and coarse roots; 5 percent subrounded gravel; moderately acid (pH 5.8); clear smooth boundary.

2BC—9 to 21 inches (23 to 53 cm); dark yellowish brown (10YR 4/4), very cobbly sandy loam; weak medium subangular blocky structure; very friable, nonsticky and nonplastic; few very fine and fine roots; 35 percent subrounded gravel, 20 percent subrounded and angular cobble, occasional angular stones; moderately acid (pH 6.0); gradual wavy boundary.

2C1—21 to 37 inches (53 to 94 cm); dark grayish brown (2.5Y 4/2), very cobbly sandy loam;

massive; firm, slightly sticky and slightly plastic; 35 percent subrounded gravel, 20 percent subrounded and angular cobble, occasional angular stones; neutral (pH 6.6); diffuse wavy boundary.

2C2—37 to 60 inches (94 to 152 cm); dark grayish brown (2.5Y 4/2), very gravelly loam; massive; firm, slightly sticky and slightly plastic; 35 percent subrounded gravel and 10 percent subangular cobble; neutral (pH 6.6).

### *Range In Characteristics*

*Depth to gravelly till:* 4 to 10 inches

*E horizon:*

Color—hue of 10YR or 2.5Y; value of 4 to 6; chroma of 1 or 2

Texture—silt loam or very fine sandy loam

Coarse fragment content—0 to 10 percent gravel and 0 to 5 percent cobbles

Reaction—strongly acid or moderately acid

*Bs horizon:*

Color—hue of 5YR or 7.5YR; value of 3 to 5; chroma of 4 to 6.

Texture—silt loam, loam, very fine sandy loam, or fine sandy loam

Coarse fragment content—0 to 5 percent cobble and 0 to 10 percent gravel

Reaction—strongly acid or moderately acid

*2Bs horizon (where present):*

Color—hue of 7.5YR; value of 4; chroma of 4 to 6

Texture—fine very gravelly sandy loam, gravelly sandy loam, or very gravelly sandy loam

Coarse fragment content—0 to 3 percent stones, 0 to 20 percent cobble, and 10 to 60 percent gravel

Reaction—strongly acid or moderately acid

*2BC horizon (where present):*

Color—hue of 10YR or 2.5Y; value of 3 to 5; chroma of 3 to 6

Texture—fine sandy loam, sandy loam or loam

Coarse fragment content—5 to 20 percent cobble and 5 to 40 percent gravel.

Reaction—moderately acid or slightly acid.

*2C horizons:*

Color—hue from 10YR to 5Y; value of 3 to 5; chroma of 2 to 4

Texture—sandy loam or loam  
 Coarse fragment content—0 to 3 percent stones, 0 to 25 percent cobble, and 25 to 60 percent gravel  
 Reaction—moderately acid or slightly acid

## Deneka Series

### *Taxonomic Classification*

- Medial over loamy-skeletal, amorphic over mixed, superactive Lithic Humicryods

*Depth class:* shallow

*Drainage class:* well drained

*Parent material:* ash influenced loess over glacial till over igneous or metamorphic bedrock

*Landform:* structural benches, crests and steep backslopes of mountains

*Slope:* 0 to 85 percent

*Elevation:* 738 to 3,281 feet

*Precipitation:* 20 to 50 inches

*Mean annual temperature:* 34 degrees F

### *Typical Pedon*

*Map unit in which located:* 192-Talkeetna, low elevation-Deneka low elevation association, steep and moderately steep in the Matanuska-Susitna Valley Area Soil Survey

*Location in the survey area:* NE $\frac{1}{4}$ SE $\frac{1}{4}$ , Section 2, T22N, R3W, Seward Meridian; 20 miles northeast of Willow, Alaska

### *Typical Pedon Location*

Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material; fibrous organic mat; very strongly acid (pH 4.5); abrupt smooth boundary (2 to 4 inches thick).

A—2 to 4 inches (5 to 10 cm); dark reddish brown (5YR 3/2) silt loam; weak medium granular structure; many very fine, fine, medium, and coarse roots; very friable, nonsticky and nonplastic; extremely acid (pH 4.0); abrupt smooth boundary (0 to 3 inches thick).

E—4 to 6 inches (10 to 15 cm); light brownish gray (10YR 6/2) silt loam; weak fine subangular blocky structure; few very fine, fine and medium roots; very friable, nonsticky and nonplastic; extremely acid (pH 4.0); abrupt wavy boundary (1 to 3 inches thick).

Bhs1—6 to 8 inches (15 to 20 cm); very dusky red (2.5YR 2.5/2) fine sandy loam; moderate medium subangular blocky structure parting to strong very fine granular; few very fine and fine roots; friable with firm lenses and pockets, nonsticky and nonplastic; extremely acid (pH 4.0); clear wavy boundary (3 to 6 inches thick).

Bhs2—8 to 12 inches (20 to 30 cm); very dusky red (2.5YR 2.5/2) fine sandy loam; moderate medium subangular blocky structure parting to strong very fine granular; few very fine and fine roots; friable with firm lenses and pockets, nonsticky and nonplastic; extremely acid (pH 4.2); abrupt wavy boundary (0 to 6 inches thick).

Eb—12 to 13 inches (30 to 33 cm); brown (10YR 4/3) silt loam; weak medium subangular blocky structure; very friable, nonsticky and nonplastic; extremely acid (pH 4.2); abrupt wavy boundary (0 to 3 inches thick).

Bsb—13 to 19 inches (33 to 48 cm); dark reddish brown (5YR 3/4) silt loam; weak medium subangular blocky structure; very friable, nonsticky and nonplastic; very strongly acid (pH 5.0); clear wavy boundary (0 to 6 inches thick).

2BC—19 to 22 inches (48 to 56 cm); dark yellowish brown (10YR 4/6) very cobbly sandy loam; weak coarse subangular blocky structure; friable, nonsticky and nonplastic; 15 percent subrounded and angular gravel and 20 percent angular cobble; moderately acid (pH 5.8); abrupt wavy boundary (1 to 6 inches thick).

3R—22 inches (56 cm); hard granite bedrock.

### *Range in Characteristics*

*Depth to bedrock:* 12 to 20 inches below mineral surface

*Reaction:* extremely acid to moderately acid

*A horizon (where present):*

*Color*—hue from 5YR to 10YR; value of 2 or 3; chroma of 1 to 3.

*E and Eb horizon:*

*Color*—hue of 5YR to 10YR; value of 4 to 6; chroma of 2 or 3

*Texture*—silt loam or very fine sandy loam

*Bhs horizons:*

*Color*—hue of 10R to 5YR; value of 2 to 3; chroma of 2 or 3

*Texture*—silt loam, fine sandy loam, sandy loam, or loam

*Bs and Bsb horizons:*

Color—hue of 2.5YR to 7.5YR; value of 3 to 5;  
chroma of 4 to 8

Texture—silt loam, fine sandy loam, or sandy loam

*2BC horizon:*

Color—hue of 10YR or 2.5Y; value of 3 or 4;  
chroma of 4 to 6

Texture—loam or sandy loam

Coarse fragment content—30 to 45 percent gravel,  
10 to 15 percent cobbles, and 0 to 3 percent  
stones

**Disappear Series*****Taxonomic Classification***

- Coarse-loamy, mixed, superactive, nonacid  
Histic Cryaquepts

*Depth class:* very deep

*Drainage class:* poorly drained

*Parent material:* coarse loamy alluvium over gravelly  
glaciofluvial deposits

*Landform:* depressions in outwash plains and  
drainageways

*Slope:* 0 to 12 percent

*Elevation:* 33 to 1,312 feet

*Precipitation:* 14 to 12 inches

*Mean annual temperature:* 35 degrees F

***Typical Pedon Location***

*Map unit in which located:* 416-Disappear-Pioneer  
Peak complex, 0 to 7 percent slopes in the  
Anchorage Area Soil Survey

*Location in the survey area:* NW¼NE¼, Section 11,  
T13N, R2W, Seward Meridian

***Typical Pedon***

Oi—0 to 3 inches (0 to 8 cm); black (7.5YR 2.5/1)  
peat; many very fine, fine, medium, and coarse  
roots; very strongly acid (pH 4.8); clear smooth  
boundary.

Oa—3 to 8 inches (8 to 20 cm); black (7.5YR 2.5/1)  
muck; many very fine, fine, medium, and coarse  
roots; very strongly acid (pH 5.0); clear smooth  
boundary.

Bw—8 to 14 inches (20 to 36 cm); brown (7.5YR  
4/3) gravelly sandy loam; weak medium

subangular structure parting to moderate  
medium granular; friable, slightly sticky and  
slightly plastic; common very fine and fine roots;  
18 percent gravel and 1 percent cobble; strongly  
acid (pH 5.4); clear smooth boundary.

2BC—14 to 19 inches (36 to 48 cm); brown (10YR  
4/3) silt loam; weak medium subangular blocky  
structure parting to weak medium platy; friable,  
slightly sticky and slightly plastic; few very fine  
and fine roots; few medium faint dark grayish  
brown (10YR 4/2) redoximorphic depletions;  
moderately acid (pH 5.6); gradual wavy  
boundary.

2C1—19 to 51 inches (48 to 130 cm); reddish brown  
(2.5YR 4/3) silt loam; massive; friable, slightly  
sticky and slightly plastic; few fine prominent  
dark yellowish brown (10YR 4/6) redoximorphic  
concentrations and common medium distinct  
very dark gray (2.5Y 3/1) redoximorphic  
depletions; moderately acid (pH 5.8); clear  
smooth boundary.

2C2—51 to 55 inches (130 to 140 cm); very dark  
grayish brown (2.5Y 3/2) loamy fine sand; single  
grain: loose, nonsticky and nonplastic; common  
medium faint very dark gray (2.5Y 3/1)  
redoximorphic depletions and few medium  
prominent dark yellowish brown (10YR 4/6)  
redoximorphic concentrations; moderately acid  
(pH 6.0); clear smooth boundary.

3C3—55 to 63 inches (140 to 160 cm); dark grayish  
brown (2.5Y 4/2), stratified extremely gravelly  
sandy loam, very gravelly coarse sand, and  
loamy fine sand; single grain; loose, nonsticky  
and nonplastic; 45 percent gravel and 15  
percent cobbles; few medium prominent dark  
yellowish brown (10YR 4/6) redoximorphic  
concentrations; moderately acid (pH 6.0).

***Range in Characteristics***

*Histic epipedon thickness:* from 8 to 12 inches  
*Depth to glaciofluvial deposits:* greater than 40  
inches

*Coarse fragment content in the solum:* 0 to 20  
percent, 0 to 20 percent gravel, and 0 to 10  
percent cobbles.

*Coarse fragment content in the substratum:* 15 to 80  
percent, 10 to 75 percent gravel and 5 to 25  
percent cobbles.

*O horizons:*

Texture—peat, mucky peat, or muck

*Bw horizon:*

Color—hue of 7.5YR or 10YR; value of 3 or 4; chroma of 1 to 3

Texture—gravelly sandy loam, silt loam, or loam

Reaction—very strongly acid or strongly acid

*2BC horizon (where present):*

Color— chroma of 2 or 3

Reaction—very strongly acid or strongly acid

*2C horizons:*

Color—hue of 10YR or 2.5Y; chroma of 1 to 3

Texture—sandy loam, silt loam, or loamy fine sand

Reaction—moderately acid or slightly acid

*3C horizon:*

Color—hue of 10YR or 2.5Y; chroma of 1 to 3

Reaction—moderately acid or slightly acid

**Doroshin Series*****Taxonomic Classification***

- Loamy, mixed, euic Terric Cryohemists

*Depth class:* very deep

*Drainage class:* very poorly drained

*Parent material:* organic material overlying loamy and gravelly sediments

*Landform:* depressions on drainageways, outwash plains, along lake borders, and on footslopes affected by seepage

*Slope:* 0 to 20 percent

*Elevation:* 33 to 1,476 feet

*Precipitation:* 14 to 29 inches

*Mean annual temperature:* 35 degrees F

***Typical Pedon Location***

*Map unit in which located:* 417-Doroshin peat, 0 to 7 percent slopes in the Anchorage Area Soil Survey

*Location in the survey area:* NE¼SW¼, Section 25, T15N, R2W, Seward Meridian

***Typical Pedon***

Oi—0 to 14 inches (0 to 35 cm); dark reddish brown (5YR 3/2) peat; 90 percent fibers unrubbed, 75 percent fibers rubbed; 5 percent thin strata of mineral material; strongly acid, clear smooth boundary.

Oe1—14 to 24 inches (36 to 61 cm); very dark grayish brown (10YR 3/2) mucky peat; 60 percent fibers unrubbed, 25 percent fibers rubbed; 5 percent thin strata of mineral material; strongly acid; clear smooth boundary.

Oe2—24 to 36 inches (61 to 91 cm); very dark brown (10YR 2/2) mucky peat; 30 percent fibers unrubbed, 25 percent fibers rubbed; 10 percent thin strata of mineral material; strongly acid; abrupt smooth boundary.

2Cg—36 to 60 inches (91 to 152); dark greenish gray (5GY 4/1) silt loam; massive; friable; slightly sticky, nonplastic; strongly acid.

***Range in Characteristics***

*Depth to mineral soil:* 16 to 50 inches.

*O horizons:*

Color—hue of 5YR to 10YR; value of 2 to 5; chroma of 1 to 4

Reaction—very strongly acid or strongly acid

*2C horizon:*

Color—gleyed hue of 7.5YR to 5Y; value of 3 to 7; chroma of 1 to 4

Texture—silt loam, loam, loamy sand and sandy loam

Coarse fragment content—0 to 25 percent gravel

**Eklutna Series*****Taxonomic Classification***

- Sandy-skeletal, mixed Typic Cryorthents

*Depth class:* very deep

*Drainage class:* excessively drained

*Parent material:* gravelly alluvium

*Landform:* terraces and alluvial fans

*Slope:* 0 to 3 percent

*Elevation:* 16 to 1,148 feet

*Precipitation:* 14 to 20 inches

*Mean annual temperature:* 35 degrees F

***Typical Pedon Location***

*Map unit in which located:* 419-Eklutna very cobbly sand, 0 to 3 percent slopes in the Anchorage Area Soil Survey

*Location in the survey area:* NW¼SE¼, Section 24, T16N, R1W, Seward Meridian

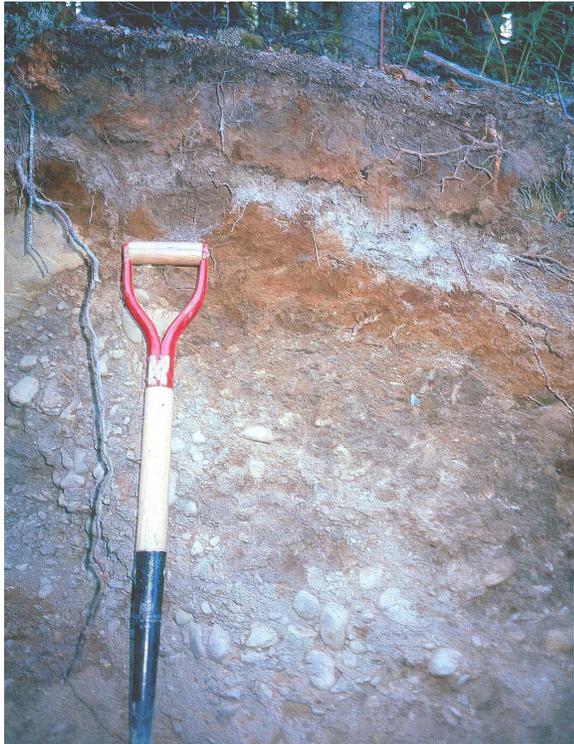


Figure 7. Profile of Estelle silt loam.



Figure 8. Profile of Iknuun peat. Note thin discontinuous ash layer located at the knife.



Figure 9. Profile of Talkeetna silt loam.



Figure 10. Profile of Susivar fine sandy loam.

**Typical Pedon**

Oe—0 to 2 inches (0 to 5 cm); moderately decomposed plant material; many very fine and fine roots; strongly acid (pH 5.5); abrupt smooth boundary (0 to 4 inches thick).

C—2 to 60 inches (5 to 152 cm); dark grayish brown (2.5Y 4/2), very gravelly sand, 70 percent subrounded gravel and 10 percent subrounded cobble; single grain; loose, nonsticky and nonplastic; slightly acid (pH 6.5).

**Range in Characteristics**

*Depth to sand and gravel:* 0 to 4 inches

*Coarse fragment content:* 35 to 60 percent gravel, 5 to 15 percent cobbles, 0 to 5 percent stones

*O horizon:*

Color—value of 2 or 3; chroma of 1 to 3

*A horizon:*

Present in some pedons

*C horizon:*

Color—value of 3 to 5; chroma of 2 to 4

Reaction—slightly acid or neutral

**Estelle Series****Taxonomic Classification**

- Medial over loamy-skeletal, amorphous over mixed, superactive Andic Haplocryods

*Depth class:* very deep

*Drainage class:* well drained

*Parent material:* ash influenced loess over gravelly glacial till

*Landform:* glacial till plains and hills

*Slope:* 0 to 85 percent

*Elevation:* 50 to 1,968 feet

*Precipitation:* 14 to 20 inches

*Mean annual temperature:* 35 degrees F

**Typical Pedon Location**

*Map unit in which located:* 133-Estelle silt loam, steep and rolling in the Matanuska-Susitna Valley Area Soil Survey

*Location in the survey area:* Southwest corner of Section 34, T16N, R.4W, Seward Meridian

**Typical Pedon**

Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material; very strongly acid (pH 4.6); abrupt smooth boundary.

E—2 to 4 inches (5 to 10 cm); dark grayish brown (10YR 4/2) and brown (10YR 4/3) silt loam; moderate fine granular structure; very friable, nonsticky and nonplastic; many very fine, fine, medium, and coarse roots; strongly acid (pH 5.2); abrupt smooth boundary.

Bs1—4 to 6 inches (10 to 15 cm); yellowish red (5YR 5/6) very fine sandy loam; weak medium granular structure; very friable, nonsticky and nonplastic; common very fine, fine, medium, and coarse roots; moderately acid (pH 5.6); clear smooth boundary.

Bs2—6 to 10 inches (15 to 25 cm); strong brown (7.5YR 5/6) silt loam; weak medium subangular blocky structure; very friable, nonsticky and nonplastic; common very fine, fine, medium, and coarse roots; 2 percent subangular gravel; moderately acid (pH 5.6); gradual wavy boundary.

BC—10 to 18 inches (25 to 46 cm); dark yellowish brown (10YR 4/4) very fine sandy loam; weak medium subangular blocky structure; very friable, nonsticky and nonplastic; few very fine, fine and medium roots; occasional subangular gravel and cobble; moderately acid (pH 5.8); clear irregular boundary.

2C1—18 to 28 inches (46 to 71 cm); brown (10YR 4/3), very gravelly loam; massive; friable, slightly sticky and slightly plastic; 25 percent subangular gravel and 10 percent angular cobble; neutral (pH 6.8); diffuse irregular boundary.

2C2—28 to 60 inches (71 to 152 cm); dark grayish brown (2.5Y 4/2), very gravelly loam; weak thick platy structure, slightly sticky and slightly plastic; 30 percent subangular gravel and 10 percent angular cobble; neutral acid (pH 6.8).

**Range in Characteristics**

*Loess mantle thickness:* 14 to 24 inches and may contain buried horizons

*Depth to gravelly glacial till:* 14 to 24 inches

*E and Eb horizon (where present):*

Color—value of 4 or 5; chroma of 1 to 3

Texture—silt loam or very fine sandy loam

Reaction—very strongly acid to moderately acid

*Bs and Bsb horizon (where present):*

Color—hue of 2.5YR to 7.5YR; value of 2 to 5;  
chroma of 4 to 6

Texture—silt loam or very fine sandy loam

Reaction—very strongly acid to moderately acid

*BC horizon (where present):*

Color—hue of 7.5YR or 10YR; value of 3 to 5;  
chroma of 3 to 6

Texture—silt loam or very fine sandy loam

Reaction—moderately acid to neutral.

*2Bs and 2BC horizons (when present):*

Color—hue of 7.5YR or 10YR; value of 3 to 5;  
chroma of 3 to 6

Texture—loam or sandy loam

Coarse fragment content—10 to 50 percent gravel,  
0 to 10 percent cobbles, 0 to 5 percent stones

Reaction—moderately acid to neutral

*2C horizon:*

Color—hue of 10YR to 2.5Y; value of 3 to 5;  
chroma of 2 to 4

Texture—sandy loam or loam

Coarse fragment content—25 to 65 percent gravel,  
0 to 20 percent cobbles, 0 to 5 percent stones

Reaction—moderately acid to neutral

## Haplocryods

### *Taxonomic Classification*

- Haplocryods

*Depth class:* shallow to moderately deep

*Drainage class:* well drained

*Parent material:* ash influenced loess

*Landform:* hills

*Slope:* 20 to 50 percent

*Elevation:* 82 to 320 feet

*Precipitation:* 14 to 20 inches

*Mean annual temperature:* 35 degrees F

### *Representative Pedon Location*

*Map unit in which located:* 420-Haplocryods, 20 to  
50 percent slopes in the Anchorage Area Soil  
Survey

*Location in the survey area:* SW¼NE¼, Section 24,  
T16N, R1W, Seward Meridian; one-half mile  
south of Eklutna village, Alaska

### *Representative Pedon*

Oe—0 to 3 inches (0 to 8 cm); moderately  
decomposed plant material; many very fine  
roots, common medium roots, and few coarse  
roots; very strongly acid (pH 4.8); abrupt smooth  
boundary.

E—3 to 5 inches (8 to 13 cm); gray (10YR 5/1) silt  
loam; weak very granular structure; very friable,  
slightly sticky and slightly plastic; common very  
fine, fine, and medium roots and few coarse  
roots; strongly acid (pH 6.5); clear wavy  
boundary.

Bs1—5 to 8 inches (13 to 20 cm); dark brown  
(7.5YR 3/4) silt loam; weak very fine subangular  
blocky structure; very friable, slightly sticky and  
slightly plastic; few very fine, fine, medium, and  
course roots; strongly acid (pH 5.5); abrupt  
wavy boundary.

2Bs2—8 to 24 inches (20 to 61 cm); brown (7.5YR  
4/4) stony silt loam; weak very fine subangular  
blocky structure; very friable, slightly sticky and  
slightly plastic; few very fine, fine, medium, and  
coarse roots; 5 percent cobbles and 20 percent  
stones; strongly acid (pH 5.5); abrupt smooth  
boundary.

2R—24 inches (61 cm); hard bedrock.

### *Range in Characteristics*

*Depth to bedrock:* 10 to 40 inches

*Oe horizon:*

Reaction—very strongly acid to moderately acid

*E horizon:*

Color—value of 5 or 6; chroma of 1 or 2

Reaction—very strongly acid to moderately acid

*Bs horizon:*

Color—value of 3 to 5; chroma of 2 to 4

Reaction—very strongly acid to moderately acid

*2Bs horizon:*

Color—value of 3 to 5; chroma of 2 to 4

Texture—silt loam or stony silt loam  
 Coarse fragment content—0 to 10 percent gravel, 0 to 15 percent cobbles, 10 to 30 percent stones  
 Reaction—very strongly acid to moderately acid

few very fine and fine roots; 30 percent gravel, 3 percent cobbles, and 3 percent stones; common medium prominent black (5Y 2.5/1) redoximorphic concentrations; strongly acid (pH 5.5).

## Histic Cryaquepts

### ***Taxonomic Classification***

- Histic Cryaquepts

*Depth class:* very deep

*Drainage class:* poorly drained

*Parent material:* silty alluvium over gravelly till

*Landform:* depressions on mountains and terraces

*Slope:* 0 to 25 percent

*Elevation:* 0 to 3,937 feet

*Precipitation:* 14 to 50 inches

*Mean annual temperature:* 34 degrees F

### ***Representative Pedon Location***

*Map unit in which located:* 421-Histic Cryaquepts, 0 to 15 percent slopes in the Anchorage Area Soil Survey

*Location in the survey area:* NW¼SW¼, Section 28, T12N, R2W, Seward Meridian; 1¼ miles northeast of Flattop Mountain, Alaska

### ***Representative Pedon***

Oe—0 to 9 inches (0 to 23 cm); very dark brown (10YR 2/2) mucky peat; many very fine and fine roots, common medium roots; very strongly acid (pH 5.0); abrupt smooth boundary.

A—9 to 20 inches (23 to 51 cm); black (7.5YR) silt loam; weak fine granular structure; friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; very strongly acid (pH 5.0); clear smooth boundary.

Bg—20 to 35 inches (51 to 89 cm); dark brown (10YR 3/2) gravelly silt loam; weak fine subangular blocky structure; friable, slightly sticky and slightly plastic; common very fine and fine roots, few medium roots; 15 percent gravel, 1 percent cobbles, and 1 percent stones; common medium prominent black (5Y 2.5/1) redoximorphic concentrations; very strongly acid (pH 5.0); gradual wavy boundary.

2Cg—35 to 60 inches (89 to 152 cm); dark grayish brown (2.5Y 4/2), very gravelly sandy loam; massive; very friable, nonsticky and nonplastic;

### ***Range in Characteristics***

*Histic epipedon thickness:* 8 to 16 inches

*Depth to gravelly till:* 20 to 40 inches

*Oe horizon:*

Reaction—extremely acid to strongly acid

*A horizon*

Color—hue of 7.5YR or 10YR; value of 2 or 3; chroma of 1 or 2

Reaction—very strongly acid to strongly acid

*Bg horizon:*

Color—hue of 7.5YR or 10YR; value of 3 to 5; chroma of 1 to 3

Texture—silt loam

Coarse fragment content—0 to 30 percent gravel, 0 to 3 percent cobbles, and 0 to 3 percent stones

Reaction—very strongly acid or strongly acid

*2Cg horizon:*

Color—hue of 7.5YR to 2.5Y; value of 3 to 5; chroma of 1 to 3

Texture—silt loam, sand, loamy sand, or sandy loam

Coarse fragment content—15 to 45 percent gravel, 0 to 5 percent cobbles, and 0 to 5 percent stones

Reaction—very strongly acid to slightly acid

## Hurdygurdy Series

### ***Taxonomic Classification***

- Medial over loamy-skeletal, amorphic over mixed, superactive Andic Humicryods

*Depth class:* very deep

*Drainage class:* well drained

*Parent material:* ash influenced loess over glacial till

*Landform:* mountains

*Slope:* 5 to 70 percent

*Elevation:* 1,640 to 4,429 feet

*Precipitation:* 30 to 50 inches

*Mean annual temperature:* 34 degrees F

### **Typical Pedon Location**

*Map unit in which located:* 423-Hurdygurdy-Siwash-Rock outcrop association, 10 to 70 percent slopes in the Anchorage Area Soil Survey  
*Location in the survey area:* SW¼NW¼, Section 4, T11N, R2W, Seward Meridian; 1½ miles southeast of Flattop Mountain, Alaska

### **Typical Pedon**

Oe—0 to 5 inches (0 to 13 cm); moderately decomposed plant material; very strongly acid (pH 4.5); abrupt smooth boundary.

E—5 to 8 inches (13 to 20 cm); dark gray (7.5YR 4/1) silt loam; weak fine granular structure; friable, nonsticky and nonplastic; many very fine, fine, common medium, and few coarse roots; strongly acid (pH 5.2); abrupt smooth boundary.

Bhs—8 to 18 inches (20 to 46 cm); dark brown (7.5YR 3/2) silt loam; weak fine subangular blocky structure; friable, nonsticky and nonplastic; many very fine, fine, common medium, and few coarse roots; strongly acid (pH 5.2); clear wavy boundary.

2BC—18 to 25 inches (46 to 64 cm); dark brown (7.5YR 3/4), very gravelly sandy loam; weak very fine subangular blocky structure; friable, nonsticky and nonplastic; common very fine, fine, and few medium roots; 30 percent gravel and 10 percent cobbles; strongly acid (pH 5.2); clear wavy boundary.

2C—25 to 60 inches (64 to 152 cm); brown (10YR 4/3) very gravelly sandy loam; massive; friable, nonsticky and nonplastic; few very fine and fine roots; 35 percent gravel and 5 percent cobbles; strongly acid (pH 5.2).

### **Range in Characteristics**

*Depth to glacial till:* 15 to 20 inches

#### *E horizon:*

Color—hue of 7.5YR or 10YR; value of 4 or 5; chroma of 1 or 2

Reaction—strongly acid or moderately acid

#### *Bhs horizon:*

Color—hue of 5YR or 7.5YR; value of 2 or 3; chroma of 1 to 3

Reaction—strongly acid or moderately acid

#### *2BC horizon (where present):*

Color—value of 3 or 4; chroma of 2 to 4

Reaction—strongly acid or moderately acid

#### *2C horizon:*

Color—hue of 7.5YR to 2.5Y; value of 3 to 5; chroma of 2 to 4

Texture—sandy loam or loam

Coarse fragment content—30 to 60 percent gravel and 10 to 40 percent cobbles

Reaction—strongly acid or moderately acid

## **Icknuun Series**

### **Taxonomic Classification**

- Euic Fluvaquentic Cryohemists

*Depth class:* very deep

*Drainage class:* very poorly drained

*Parent material:* organic material interlayered with thin strata of mineral material

*Landform:* depressions in till plains

*Slope:* 0 to 3 percent

*Elevation:* 33 to 984 feet

*Precipitation:* 14 to 20 inches

*Mean annual temperature:* 35 degrees F

### **Typical Pedon Location**

*Map unit in which located:* 424-Icknuun peat, 0 to 3 percent slopes in the Anchorage Area Soil Survey

*Location in the survey area:* NW¼NW¼, Section 22, T14N, R3W, Seward Meridian; one-quarter mile north of Sixmile Lake, Alaska

### **Typical Pedon**

Oe—0 to 10 inches (0 to 25 cm); black (5YR 2.5/1) mucky peat; 60 percent fibers unrubbed, 25 percent fibers rubbed; many very fine to medium roots; strongly acid (pH 5.2); clear smooth boundary.

Ag—10 to 14 inches (25 to 36 cm); very dark gray (7.5YR 3/1) silt loam; massive; very friable, nonsticky and nonplastic; many very fine and fine roots; strongly acid (pH 5.4); clear smooth boundary.

Oe'—14 to 60 inches (36 to 152 cm); dark reddish brown (5YR 3/2) mucky peat; 30 percent fibers

unrubbed, 25 percent fibers rubbed; strongly acid (pH 5.4).

### **Range in Characteristics**

*Organic material thickness:* 52 inches to 60 inches

*Oe horizons:*

Color—hue of 5YR to 10YR; value of 2 to 4; chroma of 1 to 4

Texture—mucky peat, peat, or muck

*Ag or C horizons (where present):*

Color—hue of 7.5YR or 10YR and value of 3 or 8

Texture—silt loam

Coarse fragment content—0 to 25 percent gravel

Reaction—very strongly acid to moderately acid

## **Jacobsen Series**

### **Taxonomic Classification**

- Loamy-skeletal, mixed, superactive, acid Histic Cryaquepts

*Depth class:* very deep

*Drainage class:* very poorly drained

*Parent material:* alluvium overlying gravelly glacial drift

*Landform:* depressions in till plains, drainageways, and hills

*Slope:* 0 to 20 percent

*Elevation:* 33 to 1,476 feet

*Precipitation:* 14 to 16 inches

*Mean annual temperature:* 35 degrees F

### **Typical Pedon Location**

*Map unit in which located:* 434-Kichatna-Pioneer Peak-Jacobsen complex, 0 to 15 percent slopes in the Anchorage Area, Alaska

*Location in the survey area:* SW¼NE¼, Section 22, T14N, R3W, Seward Meridian; one-quarter mile north of Sixmile Lake, Alaska

### **Typical Pedon**

Oa—0 to 8 inches (0 to 20 cm); black (7.5YR 2.5/1); muck; many very fine, fine, medium, and coarse roots; very strongly acid (pH 5.0); clear smooth boundary.

Ag—8 to 11 inches (20 to 28 cm); very dark gray (10YR3/1) gravelly silt loam; weak fine granular structure; very friable, nonsticky and nonplastic; common very fine, fine and medium roots; very strongly acid (pH 5.0); clear smooth boundary.

2Cg1—11 to 14 inches (28 to 36 cm); very dark gray (2.5Y 3/1), very gravelly loamy sand; single grain; loose; few very fine and fine roots; 35 percent gravel, 5 percent cobbles; strongly acid (pH 5.2); clear smooth boundary.

2Cg2—14 to 60 inches (36 to 152 cm); very dark grayish brown (2.5Y 3/2), very gravelly sandy loam; massive; friable, slightly sticky, nonplastic; 35 percent gravel, 5 percent cobbles; strongly acid (pH 5.2).

### **Range in Characteristics**

*Histic epipedon thickness:* 8 to 15 inches

*Oa horizon:*

Color—hue of 7.5YR or 10YR; value of 2.5 or 2; chroma of 1 or 2

Reaction—very strongly acid or strongly acid

*Ag horizon:*

Color—hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 1 or 2

Texture—mucky silt loam or silt loam

Coarse fragment content—5 to 25 percent gravel, 5 to 35 percent cobbles, and 0 to 3 percent stones

Reaction—very strongly acid or strongly acid

*2Cg horizons:*

Color—hue of 10YR or 2.5Y; value of 3 or 4; chroma of 1 or 2

Reaction—very strongly acid to moderately acid

## **Kashwitna Series**

### **Taxonomic Classification**

- Medial over sandy or sandy-skeletal, amorphic over mixed Andic Haplocryods

*Depth class:* very deep

*Drainage class:* well drained

*Parent material:* ash influenced loess overlying gravelly outwash

*Landform:* outwash plains and hills

*Slope:* 0 to 85 percent

*Elevation:* 50 to 1,968 feet  
*Precipitation:* 14 to 32 inches  
*Mean annual temperature:* 35 degrees F

### **Typical Pedon Location**

*Map unit in which located:* 218-Nancy-Kashwitna complex, 0 to 2 percent slopes in the Yentna Area Soil Survey  
*Location in the survey area:* SW¼NW¼, Section 36, T12N, R11W, Seward Meridian

### **Typical Pedon**

Oi—0 to 3 inches (0 to 8 cm); slightly decomposed plant material, moss, mycelia, and fine roots; very strongly acid; abrupt wavy boundary.

E—3 to 5 inches (8 to 13 cm); gray (10YR 5/1) silt loam; weak fine granular structure; very friable, nonsticky and nonplastic; many medium and coarse roots; very strongly acid; abrupt smooth boundary.

Bs1—5 to 7 inches (13 to 18 cm); dark reddish brown (5YR 3/4) silt loam; weak fine subangular blocky structure; very friable, slightly smeary, nonsticky and nonplastic; many medium and coarse roots; few fine concretions; very strongly acid; abrupt wavy boundary.

Bs2—7 to 10 inches (18 to 25 cm); strong brown (7.5YR 4/6) silt loam; weak fine granular structure; very friable, slightly smeary, nonsticky and nonplastic; many medium and coarse roots; very strongly acid; abrupt smooth boundary.

Eb—10 to 12 inches (25 to 30 cm); very dark grayish brown (10YR 3/2) silt loam; weak fine granular structure; very friable, slightly smeary, nonsticky and nonplastic; many medium and coarse roots; very strongly acid; abrupt smooth boundary.

Bsb—12 to 18 inches (30 to 46 cm); brown (7.5YR 4/4) silt loam; weak fine subangular blocky structure; very friable, slightly smeary, nonsticky and nonplastic; common coarse roots; strongly acid; clear wavy boundary.

BC—18 to 21 inches (46 to 53 cm); dark yellowish brown (10YR 3/4) silt loam; weak fine subangular blocky structure; very friable, slightly smeary, nonsticky and nonplastic; 10 percent coarse gravel; strongly acid; clear smooth boundary.

2C—21 to 60 inches (53 to 152 cm); olive brown (2.5Y 4/4), very gravelly sand; single grain; loose; 45 percent gravel; strongly acid.

### **Range in Characteristics**

*Depth to gravelly outwash:* 14 to 21 inches  
*Loess mantle thickness:* 10 to 20 inches  
*Reaction:* extremely acid to moderately acid  
*Other:* some pedons lack bisequal sola

#### *E and Eb horizons:*

*Color*—hue of 5YR to 10YR; value of 2 to 6; chroma of 1 to 3

*Texture*—silt loam, very fine sandy loam, or fine sandy loam

#### *Bs and Bsb horizons:*

*Color*—hue of 2.5YR to 7.5YR; value of 3 to 5; chroma of 3 to 6

*Texture*—silt loam or very fine sandy loam

#### *2BC horizon (where present):*

*Color*—hue of 10YR or 2.5Y; value of 3 or 4; chroma of 2 to 4

*Texture*—sandy loam

*Coarse fragment content*—15 to 40 percent gravel and 0 to 10 percent cobbles

#### *2C horizon:*

*Color*—variegated

*Texture*—sand or loamy sand

*Coarse fragment content*—35 to 70 percent gravel, 0 to 30 percent cobbles, and 0 to 3 percent stones

## **Kichatna Series**

### **Taxonomic Classification**

- Sandy-skeletal, mixed Typic Haplocryods

*Depth class:* very deep

*Drainage class:* well drained

*Parent material:* ash influenced loess overly gravelly glacial outwash

*Landform:* outwash plains and hills

*Slope* 0 to 85 percent

*Elevation:* 33 to 1,968 feet

*Precipitation:* 14 to 20 inches  
*Mean annual temperature:* 35 degrees F

### **Typical Pedon Location**

*Map unit in which located:* 150-Kichatna silt loam, undulating in the Matanuska-Susitna Valley Area Soil Survey

*Location in the survey area:* Northeast corner of Section 31, T16N, R4W, Seward Meridian

### **Typical Pedon**

Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material; very strongly acid (pH 4.6); abrupt smooth boundary.

E—2 to 4 inches (5 to 10 cm); dark grayish brown (10YR 4/2) and gray (10YR 5/1) silt loam; weak medium granular structure; very friable, nonsticky and nonplastic; few very fine and fine roots; strongly acid (pH 5.4); abrupt wavy boundary.

Bs—4 to 7 inches (10 to 18 cm); yellowish red (5YR 4/6) and strong brown (7.5YR 4/6) very fine sandy loam; weak medium granular structure; very friable, nonsticky and nonplastic; few very fine and fine roots; strongly acid (pH 5.4); abrupt smooth boundary.

Eb—7 to 8 inches (18 to 20 cm); brown (10YR 5/3) silt loam; weak fine granular structure; very friable, nonsticky and nonplastic; few very fine and fine roots; moderately acid (pH 5.6); abrupt smooth boundary.

Bsb—8 to 11 inches (20 to 28 cm); brown (7.5YR 4/4) silt loam; weak fine granular structure; very friable, nonsticky and nonplastic; few very fine and fine roots; moderately acid (pH 5.6); clear smooth boundary.

2BC—11 to 14 inches (28 to 36 cm); dark yellowish brown (10YR 4/4), very gravelly loamy coarse sand; very friable, nonsticky and nonplastic; 30 percent well rounded gravel and 5 percent well rounded cobble; moderately acid (pH 5.8); gradual wavy boundary.

2C1—14 to 39 inches (36 to 99 cm); dark yellowish brown (10YR 3/4), very gravelly loamy coarse sand; loose, nonsticky and nonplastic; 45 percent well rounded gravel and 5 percent well rounded cobble; moderately acid (pH 6.0); gradual wavy boundary.

2C2—39 to 60 inches (99 to 152 cm); dark yellowish brown (10YR 3/4), extremely gravelly loamy coarse sand; loose, nonsticky and nonplastic; 55 percent well rounded gravel and 10 percent well rounded cobble; moderately acid (pH 6.0).

### **Range in Characteristics**

*Loess mantle thickness:* 5 to 10 inches  
*Depth to gravelly glacial outwash:* 4 to 12 inches  
*Other:* some profiles are bisequal

#### *E and Eb horizons:*

*Color*—hue of 10YR or 2.5Y; value of 3 to 5; chroma of 1 to 3

*Texture*—silt loam or very fine sandy loam

*Reaction*—very strongly acid to moderately acid

#### *Bs and Bsb horizons:*

*Color*—hue of 5YR or 7.5YR; value of 3 to 5; chroma of 4 to 6

*Texture*—silt loam or very fine sandy loam

*Coarse fragment content*—0 to 5 percent cobble and 0 to 10 percent gravel

*Reaction*—very strongly acid to moderately acid

#### *2Bs horizon (where present):*

*Color*—hue of 5YR or 7.5YR; value of 3 to 5; chroma of 4 to 6

*Texture*—loamy sand, loamy coarse sand, coarse sand or sand

*Coarse fragment content*—20 to 60 percent gravel and 0 to 15 percent cobble

*Reaction*—very strongly acid to moderately acid

#### *2BC horizon:*

*Color*—value of 3 or 4; chroma of 4 to 6

*Texture*—sandy loam, loamy coarse sand, or sand

*Coarse fragment content*—20 to 50 percent gravel and 0 to 10 percent cobble

*Reaction*—moderately acid or slightly acid

#### *2C horizon:*

*Color*—hue of 10YR or 2.5Y; value of 3 or 4; chroma from 2 to 4

*Texture*—sand, coarse sand or loamy coarse sand

*Coarse fragment content*—35 to 70 percent gravel and 0 to 15 percent cobble

*Reaction*—moderately acid or slightly acid

## Matsu Series

### *Taxonomic Classification*

- Coarse-loamy, mixed, superactive Aquic Haplocryods

*Depth class:* very deep

*Drainage class:* somewhat poorly drained

*Parent material:* mixed alluvium

*Landform:* depressions in stream terraces

*Slope:* 0 to 7 percent

*Elevation:* 49 to 410 feet

*Precipitation:* 14 to 20 inches

*Mean annual temperature:* 35 degrees F

### *Typical Pedon Location*

*Map unit in which located:* 436-Matsu silt loam, 3 to 7 percent slopes in the Anchorage Area Soil Survey

*Location in the survey area:* NE $\frac{1}{4}$ NE $\frac{1}{4}$ , Section 3, T13N, R4W, Seward Meridian; one-quarter mile south of Ted Stevens Anchorage International Airport, Alaska

### *Typical Pedon*

Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material; very strongly acid (pH 5.0); abrupt smooth boundary.

E—3 to 6 inches (8 to 15 cm); dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; very friable, nonsticky and nonplastic; common very fine and fine roots, few medium and coarse roots; strongly acid (pH 5.5); abrupt wavy boundary.

Bs—6 to 11 inches (15 to 28 cm); brown (7.5YR 4/3) silt loam; weak fine granular structure; very friable, nonsticky and nonplastic; common very fine and fine roots, few medium and coarse roots; strongly acid (pH 5.5); abrupt wavy boundary.

Ab—11 to 15 inches (28 to 38 cm); very dark gray (10YR 3/1) silt loam; weak fine granular structure; very friable, nonsticky and nonplastic; few fine roots; strongly acid (pH 5.5); abrupt wavy boundary.

Cg1—15 to 31 inches (38 to 79 cm); gray (5Y 6/1) silt loam; massive; very friable, nonsticky and nonplastic; common medium prominent strong brown (7.5YR 4/6) redoximorphic concentrations; moderately acid (pH 5.8); clear wavy boundary.

Cg2—31 to 60 inches (79 to 152 cm); gray (5Y 6/1) silt loam; massive; very friable, nonsticky and nonplastic; few very fine and fine roots; common medium prominent strong brown (7.5YR 4/6) redoximorphic concentrations; moderately acid (pH 5.7); clear wavy boundary.

### *Range in Characteristics*

*E horizon:*

Color—value of 4 or 5; chroma of 1 or 2

Texture—silt loam, loamy very fine sand, or sandy loam

Reaction—strongly acid or moderately acid

*Bs horizon:*

Color—value of 3 or 4; chroma of 2 or 3

Texture—silt loam, sandy loam, loamy very fine sand, or fine sandy loam

Reaction—strongly acid or moderately acid

*Ab horizons (where present):*

Color—value of 2 or 3; chroma of 1 or 2

Texture—silt loam or loamy very fine sand

Reaction—strongly acid or moderately acid

*Cg horizons:*

Color—hue of 10YR to 5Y; value of 3 to 6; chroma of 1 to 3

Reaction—moderately acid or slightly acid

## Moose River Series

### *Taxonomic Classification*

- Coarse-loamy, mixed, superactive, nonacid Typic Cryaquents

*Depth class:* very deep

*Drainage class:* very poorly drained

*Parent material:* stratified alluvium

*Landform:* flood plains and alluvial terraces

*Slope:* 0 to 3 percent

*Elevation:* 0 to 700 feet

*Precipitation:* 14 to 28 inches

*Mean annual temperature:* 35 degrees F

### *Typical Pedon Location*

*Map unit in which located:* Mo-Moose River silt loam in the Kenai-Kasilof Area Soil Survey

*Location in the survey area:* NE¼NE¼, Section 1, T2N, R12W, Seward Meridian; one-quarter mile northwest of the junction of the Sterling Highway and Cohoe Road, Alaska

### **Typical Pedon**

Oi—0 to 5 inches (0 to 13 cm); slightly decomposed plant material, mat of roots, and moss; strongly acid (pH 5.3); abrupt smooth boundary.

A—5 to 10 inches (13 to 25 cm); very dark grayish brown (2.5Y 3/2) silt loam; weak thin platy structure; nonsticky and nonplastic; common roots; pockets and thin layers of olive sand; moderately acid (pH 5.7); abrupt wavy boundary.

Cg1—10 to 45 inches (25 to 114 cm); dark greenish gray (5GY 4/1) fine sand stratified with lenses of silt loam and peat; single grain; loose; moderately acid (pH 5.7).

2Cg2—45 to 60 inches (114 to 152 cm); dark greenish gray (5GY 4/1) gravelly sand; single grain; loose; moderately acid (pH 5.7).

### **Range in Characteristics**

*Depth to sand and gravel:* 30 to 60 inches

*A horizon:*

Color—hue of 10YR or 2.5Y; value of 2 to 4; chroma of 0 to 2

*C horizon:*

Color—hue of 10YR to 5B; value of 4 or 5; chroma of 0 to 2

Texture—stratified lenses of silt loam, fine sandy loam, fine sand, and peat

Coarse fragment content—0 to 35 percent gravel

*2C horizon:*

Texture—sand, silt loam, sandy loam, and peat

Coarse fragment content—5 to 20 percent cobbles and stones and 10 to 35 percent gravel

## **Nakochna Series**

### **Taxonomic Classification**

- Medial, amorphic Lithic Humicryods

*Depth class:* shallow

*Drainage class:* well drained

*Parent material:* ash influenced loess overlying granite bedrock

*Landform:* mountains

*Slope:* range from 2 to 85 percent

*Elevation:* 1,000 to 5,413 feet

*Precipitation:* 30 to 50 inches

*Mean annual temperature:* 32 degrees F

### **Typical Pedon Location**

*Map unit in which located:* 206-Chuit and Nakochna silt loams, 3 to 30 percent slopes in the Yentna Area Soil Survey

*Location in the survey area:* NE¼NW¼, Section 2, T19N, R13W, Seward Meridian

### **Typical Pedon**

Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material from alpine tundra vegetation; very strongly acid (pH 4.6); abrupt smooth boundary.

A—2 to 4 inches (5 to 10 cm); very dark brown (10YR 2/2) silt loam; weak fine subangular blocky structure; very friable; many fine roots; very strongly acid; abrupt smooth boundary.

E—4 to 5 inches (10 to 13 cm); dark grayish brown (10YR 4/2) silt loam; weak fine subangular blocky structure; very friable, nonsticky and nonplastic; many fine roots; very strongly acid; abrupt broken boundary.

Bhs1—5 to 6 inches (13 to 15 cm); dark reddish brown (5YR 2.5/2) silt loam; weak fine granular structure; very friable, smeary, nonsticky and nonplastic; pockets of dark grayish brown (10YR 4/2) and very dusky red (2.5YR 2.5/2) frost churned material; very strongly acid; abrupt broken boundary.

Bhs2—6 to 8 inches (15 to 20 cm); very dusky red (2.5YR 2.5/2 silt loam; weak fine granular structure; very friable, smeary, nonsticky and nonplastic; pockets of dark reddish brown (5YR 2.5/2 and 5YR 3/4) frost churned material; very strongly acid; gradual broken boundary.

Bs—8 to 14 inches (20 to 36 cm); dark reddish brown (5YR 3/4) silt loam; weak fine granular structure; very friable, slightly smeary, nonsticky and nonplastic; pockets of very dusky red (2.5YR 2.5/2) and brown (10YR 4/3) frost churned material; very strongly acid; gradual broken boundary.

C—14 to 19 inches (36 to 48 cm); brown (10YR 4/3) gravelly silt loam; massive; friable, nonsticky and nonplastic; 25 percent gravel; very strongly acid; abrupt wavy boundary.

R—19 inches (48 cm); hard granite bedrock.

### **Range in Characteristics**

*Depth to bedrock:* 14 to 20 inches

*Reaction:* very strongly or strongly acid

*A horizon (where present):*

*Color*—hue of 5YR to 10YR; value of 2 to 4; chroma of 1 to 3

*Texture*—silt loam or very fine sandy loam

*E horizon:*

*Color*—hue of 5YR to 10YR; value of 4 to 6; chroma of 1 or 2

*Texture*—silt loam or very fine sandy loam

*Bhs horizons:*

*Color*—hue of 2.5YR to 10YR; value of 2 or 3; chroma of 1 or 2

*Texture*—silt loam or very fine sandy loam

*Bs horizon:*

*Color*—hue from 2.5YR to 7.5YR; value from 3 to 5; chroma 3 to 6

*Texture*—silt loam or very fine sandy loam

*C horizon:*

Present in some pedons

## **Niklason Series**

### **Taxonomic Classification**

- Coarse-loamy over sandy or sandy-skeletal, mixed, superactive, nonacid Typic Cryofluvents

*Depth class:* very deep

*Drainage class:* moderately well drained

*Parent material:* stratified loamy alluvium overlying very gravelly sand

*Landform:* flood plains

*Slope:* 0 to 15 percent

*Elevation:* 0 to 2,300 feet

*Precipitation:* 14 to 20 inches

*Mean annual temperature:* 35 degrees F

### **Typical Pedon Location**

*Map unit in which located:* 162-Kidazqeni-Niklason complex, 0 to 2 percent slopes in the Matanuska-Susitna Valley Area Soil Survey  
*Location in the survey area:* NW¼NE¼, Section 27, T26N, R5W, Seward Meridian

### **Typical Pedon**

Oe—0 to 2 inches (0 to 5 cm); moderately decomposed plant material; many fine roots; abrupt smooth boundary.

A—2 to 6 inches (5 to 15 cm); very dark grayish brown (10YR 3/2) silt loam; weak coarse granular structure; very friable; many roots of all sizes; strongly acid (pH 5.4); clear smooth boundary.

C1—6 to 15 inches (15 to 38 cm); very dark grayish brown (2.5Y 3/2) and dark grayish brown (2.5Y 4/2) stratified fine sand and sand; single grain; loose; few very fine, fine and medium roots; strongly acid (pH 5.4); clear smooth boundary.

C2—15 to 23 inches (38 to 58 cm); very dark grayish brown (2.5Y 3/2) and dark grayish brown (2.5Y 4/2) stratified sand through silt; massive; very friable, nonsticky and nonplastic; few very fine roots; moderately acid (pH 5.6); clear smooth boundary.

2C3—23 to 60 inches (58 to 152 cm); variegated extremely gravelly coarse sand; single grain; loose, nonsticky and nonplastic; 50 percent rounded gravel and 10 percent rounded cobble; moderately acid (pH 5.8).

### **Range in Characteristics**

*Depth to very gravelly sand:* 14 to 40 inches

*A horizon:*

*Color*—hue of 7.5YR to 2.5Y; value of 3 or 4; chroma of 1 to 4

*Texture*—silt loam, very fine sandy loam, or fine sandy loam

*Reaction*—very strongly acid to moderately acid

*C horizons:*

*Color*—hue of 10YR to 5Y; value of 3 to 6; chroma of 1 to 3

*Texture*—stratified silt loam, very fine sandy loam, sandy loam, loam, very fine sand, fine sand, sand, and loamy sand

Reaction—strongly acid to slightly acid

*2C horizon:*

Color—variegated

Texture—sand, loamy sand, or loamy coarse sand

Coarse fragment content—30 to 65 percent gravel, 10 to 25 percent cobble, and 0 to 3 percent stones

Reaction—strongly acid to slightly acid

## Niklavar Series

### ***Taxonomic Classification***

- Coarse-loamy over sandy or sandy-skeletal, mixed, superactive, nonacid Typic Cryaquents

*Depth class:* very deep

*Drainage class:* poorly drained

*Parent material:* loamy stratified alluvium over very gravelly alluvium

*Landform:* flood plains and low stream terraces

*Slope:* 0 to 3 percent

*Elevation:* 10 to 650 feet

*Precipitation:* 15 to 30 inches

*Mean annual temperature:* 35 degrees F

### ***Typical Pedon Location***

*Map unit in which located:* 187-Susivar and Niklavar fine sandy loams in the Matanuska-Susitna Valley Area Soil Survey

*Location in the survey area:* NW¼NW¼, Section 24, T22N, R5W, Seward Meridian; 16 miles north of Willow, Alaska

### ***Typical Pedon***

Oi—0 to 1 inch; slightly decomposed plant material; strongly acid (pH 5.3); clear smooth boundary.

A—1 to 2 inches; black (10YR 2/1) silt loam; weak fine granular structure; very friable; nonsticky and nonplastic; many very fine, fine and medium roots; moderately acid (pH 5.8); abrupt smooth boundary.

AC—2 to 5 inches; dark brown (10YR 3/3) stratified fine sand, very fine sand and silt; moderate medium subangular blocky structure; very friable, nonsticky and nonplastic; common very fine and fine roots; moderately acid (pH 6.0); clear smooth boundary.

C1—5 to 10 inches; very dark grayish brown (2.5Y 3/2) and dark grayish brown (2.5Y 4/2) stratified fine sand, very fine sand and silt; massive; very friable, nonsticky and nonplastic; few very fine roots; slightly acid (pH 6.2); gradual wavy boundary.

Cg2—10 to 24 inches (25 to 61 cm); dark greenish gray (5GY 4/1) stratified fine sand, very fine sand and silt with few fine distinct dark brown (10YR 3/3) mottles; massive; very friable, nonsticky and nonplastic; slightly acid (pH 6.2); gradual smooth boundary.

Cg3—24 to 31 inches (61 to 79 cm); very dark grayish brown (2.5Y 3/2) stratified sand, fine sand, very fine sand and silt with few fine distinct dark greenish gray (5GY 4/1) mottles; massive; very friable, nonsticky and nonplastic; slightly acid (pH 6.2); gradual wavy boundary.

2C4—31 to 60 inches (79 to 152 cm); variegated very gravelly coarse sand; single grain; loose, nonsticky and nonplastic; 45 percent rounded gravel; slightly acid (pH 6.2).

### ***Range in Characteristics***

*Depth to very gravelly alluvium:* 20 to less than 40 inches

*A and AC horizons:*

Color—hue of 10YR to 5Y; value of 2 to 4; chroma of 1 to 3

Texture—silt loam, loamy fine sand, and fine sandy loam

Reaction—strongly acid or moderately acid

*C horizon:*

Color—hue of 10YR to 5Y; value from 3 or 4; and chroma of 1 to 4

Reaction—moderately acid or slightly acid

*Cg horizons:*

Color—hue of 10YR to 5Y; value of 3 to 6; chroma of 1 to 4

Reaction—moderately acid or slightly acid

*2C horizon*

Color—variegated

Texture—sand

Coarse fragment content—0 to 20 percent cobbles and 30 to 50 percent gravel

Reaction—moderately acid or slightly acid

## Pioneer Peak Series

### *Taxonomic Classification*

- Coarse-loamy, mixed, superactive Aquic Haplocryods

*Depth class:* very deep

*Drainage class:* somewhat poorly drained

*Parent material:* ash influenced eolian deposits over gravelly glacial drift

*Landform:* depressions in drainageways, till plains, and hills

*Slope:* 0 to 20 percent

*Elevation:* 33 to 1,312 feet

*Precipitation:* 14 to 20 inches

*Mean annual temperature:* 35 degrees F

### *Typical Pedon Location*

*Map unit in which located:* 441-Pioneer Peak silt loam, 3 to 7 percent slopes in the Anchorage Area Soil Survey

*Location in the survey area:* NE $\frac{1}{4}$ SW $\frac{1}{4}$ , Section 20, T15N, R2W, Seward Meridian; 4.5 miles northeast of Eagle River, Alaska

### *Typical Pedon*

Oa—0 to 3 inches (0 to 8 cm); highly decomposed plant material; very strongly acid (pH 5.0); abrupt smooth boundary.

E/B—3 to 5 inches (8 to 13 cm); 80 percent dark gray (2.5Y 4/1) and 20 percent brown (7.5YR 4/4) silt loam; weak medium platy structure parting to weak fine granular; very friable, slightly sticky and slightly plastic; common very fine and fine roots; smeary; very strongly acid (pH 5.0); clear wavy boundary.

Bs—5 to 10 inches (13 to 25 cm); dark brown (7.5YR 3/4) silt loam; weak fine subangular blocky structure; very friable, slightly sticky and slightly plastic; common very fine and fine roots; smeary; strongly acid (pH 5.3); clear wavy boundary.

Eb/Bsb—10 to 14 inches (25 to 36 cm); 60 percent dark gray (2.5Y 4/1) and 40 percent brown (7.5YR 4/4) silt loam; weak medium platy structure parting to weak fine granular; very friable, slightly sticky and slightly plastic; few very fine and fine roots; smeary; strongly acid (pH 5.3); clear wavy boundary.

Bsb—14 to 15 inches (36 to 38 cm); dark brown (7.5YR 3/4) silt loam; weak fine subangular blocky structure; very friable, slightly sticky and slightly plastic; few very fine and fine roots; smeary; moderately acid (pH 5.7); clear wavy boundary.

Eb—15 to 22 inches (38 to 56 cm); dark gray (2.5Y 4/1) silt loam; weak fine subangular blocky structure; very friable, slightly sticky and slightly plastic; few very fine and fine roots; smeary; moderately acid (pH 5.7); clear wavy boundary.

Bsb1—22 to 25 inches (56 to 64 cm); dark brown (7.5YR 3/4) silt loam; weak fine subangular blocky structure; very friable, slightly sticky and slightly plastic; few very fine and fine roots; smeary; many prominent dark gray (2.5Y) redoximorphic depletions; moderately acid (pH 5.7); clear wavy boundary.

2BC—25 to 37 inches (64 to 94 cm); dark grayish brown (2.5Y 4/2) gravelly loam; weak fine subangular blocky structure; friable, slightly sticky and slightly plastic; few very fine and fine roots; 20 percent gravel; many prominent brown (7.5YR 4/4) redoximorphic concentrations; moderately acid (pH 5.8); clear wavy boundary.

2C—37 to 60 inches (94 to 152 cm); dark grayish brown (2.5Y 4/2) very gravelly sandy loam; massive; friable, nonsticky and nonplastic; 15 percent coarse gravel, 30 percent fine gravel, and 5 percent cobbles; many prominent brown (7.5YR 4/4) redoximorphic concentrations; slightly acid (pH 6.4).

### *Range in Characteristics*

*Depth to gravelly glacial drift:* 20 to 40 inches

*Coarse fragment content in the solum:* 0 to 10 percent gravel

*Coarse fragment content in gravelly glacial drift:* 15 to 60 percent gravel and 0 to 10 percent cobbles

*E horizon:*

Color—hue of 7.5YR to 2.5Y; value of 3 to 5; chroma of 1 or 2

Texture—silt loam or loam

Reaction—very strongly acid to moderately acid

*Bs horizon:*

Color—value of 3 or 4; chroma of 3 or 4

Texture—silt loam, loam, or fine sandy loam

Reaction—very strongly acid to moderately acid

*Eb/Bsb horizon:*

Color—hue of 7.5YR to 2.5Y; value of 3 to 5;  
chroma of 1 to 4

Texture—silt loam, loam, or fine sandy loam

Reaction—very strongly acid to moderately acid

*Bsb horizons (where present):*

Color—value of 3 or 4; chroma of 3 or 4

Texture—silt loam, loam, or fine sandy loam

Reaction—very strongly acid through moderately acid

*Eb horizon (where present):*

Color—hue of 7.5YR to 2.5Y; value of 3 to 5;  
chroma of 1 or 2

Texture—silt loam, loam, or fine sandy loam

Reaction—very strongly acid to moderately acid

*2BC horizon:*

Color—hue of 10YR or 2.5Y; value of 4 or 5;  
chroma of 2 or 3

Texture—fine sandy loam, loam, or silt loam

Coarse fragment content—15 to 30 percent gravel,  
and 0 to 10 percent cobbles

*2C horizon:*

Color—hue of 10YR or 2.5Y; value of 4 or 5;  
chroma of 2 or 3

Texture—loamy sand or sandy loam

Coarse fragment content—35 to 60 percent gravel  
and 3 to 10 percent cobbles

## Salamatof Series

### ***Taxonomic Classification***

- Dysic Sphagnic Cryofibrists

*Depth class:* very deep

*Drainage class:* very poorly drained

*Parent material:* sphagnum moss interlayered with  
sedge peat

*Landform:* depressions in outwash plains

*Slope:* 0 to 5 percent

*Elevation:* 16 to 656 feet

*Precipitation:* 14 to 20 inches

*Mean annual temperature:* 35 degrees F

### ***Typical Pedon Location***

*Map unit in which located:* 446-Salamatof peat, 0 to 3 percent slopes in the Anchorage Area Soil Survey

*Location in the survey area:* NE¼SE¼, Section 21, T14N, R3W, Seward Meridian; one-quarter mile south of Six Mile Lake, Alaska

### ***Typical Pedon***

Oi1—0 to 10 inches (0 to 25 cm); very dark brown (10YR 2/2), brown (10YR 4/2) squeezed dry, sphagnum moss peat and pockets of coarse sedge peat; common roots of woody shrubs; extremely acid (pH 4.4); gradual boundary.

Oi2—10 to 60 inches (25 to 152 cm); dark reddish brown (5YR 2.5/2) dark reddish brown (5YR 3/2) squeezed dry, moss peat interlayered with sedge peat; a few layers of finely divided peat; many woody fragments; extremely acid (pH 4.4).

### ***Range in Characteristics***

*O horizon:*

Texture—sphagnum moss, sedge peat, woody particles, and finely divided peat

## Siwash Series

### ***Taxonomic Classification***

- Medial over loamy-skeletal, amorphous over mixed, superactive Lithic Humicryods

*Depth class:* shallow

*Drainage class:* well drained

*Parent material:* ash influenced loess over glacial till underlain by igneous or metamorphic bedrock

*Landform:* mountain crests and backslopes

*Slope:* 0 to 70 percent

*Elevation:* 1,700 to 4,429 feet

*Precipitation:* 30 to 50 inches

*Mean annual temperature:* 34 degrees F

### ***Typical Pedon Location***

*Map unit in which located:* 184-Siwash-Talkeetna, cool-Snowdance association, 0 to 30 percent

slopes in the Matanuska-Susitna Valley Area  
Soil Survey

*Location in the survey area:* SE¼SW¼, Section 5,  
T28N, R3W, Seward Meridian

### **Typical Pedon**

Oi—0 to 4 inches (0 to 10 cm); slightly decomposed  
plant material; very strongly acid (pH 4.6);  
abrupt smooth boundary.

E—4 to 5 inches (10 to 13 cm); light grayish brown  
(10YR 5/2) silt loam with occasional patches of  
very dusky red (2.5YR 2.5/2) Bhs material;  
weak fine subangular blocky and weak fine platy  
structure; very friable, nonsticky and nonplastic;  
common very fine, fine and medium and few  
coarse roots; extremely acid (pH 4.0); abrupt  
broken boundary.

Bhs—5 to 9 inches (13 to 23 cm); very dusky red  
(2.5YR 2.5/2) very fine sandy loam with  
occasional patches of reddish brown (5YR 4/4);  
moderate medium subangular blocky structure  
parting to strong very fine granular; friable with  
firm lenses and pockets, nonsticky and  
nonplastic; common very fine and fine roots;  
extremely acid (pH 4.0); abrupt irregular  
boundary.

Bs/Eb—9 to 13 inches (23 to 33 cm); 75 percent  
yellowish red (5YR 4/6) and 25 percent brown  
(7.5YR 5/4) silt loam; moderate medium  
subangular blocky structure parting to strong  
very fine granular; friable with firm lenses and  
pockets, nonsticky and nonplastic; few very fine  
and fine roots; extremely acid (pH 4.2); abrupt  
wavy boundary.

Bhsb—13 to 15 inches (33 to 38 cm); very dusky  
red (2.5YR 2.5/2) sandy loam; weak medium  
subangular blocky structure; friable with very  
firm pockets and lenses, nonsticky and  
nonplastic; very strongly acid (pH 4.8); clear  
wavy boundary.

2BC—15 to 21 inches (38 to 53 cm); dark yellowish  
brown (10YR 3/4) very gravelly sandy loam;  
weak coarse subangular blocky structure;  
friable, nonsticky and nonplastic; 35 percent  
subrounded and angular gravel and 15 percent  
angular cobble; moderately acid (pH 5.8);  
abrupt wavy boundary.

3R—21 inches (53 cm); hard granite bedrock.

### **Range in Characteristics**

*Depth to till material:* 12 to 18 inches

*Depth to bedrock:* 13 to 20 inches below mineral  
surface

*Reaction:* extremely acid to strongly acid

*Other:* some profiles may be bisequal

*A horizon (when present):*

*Color*—hue of 5YR to 10YR; value of 2 or 3; chroma  
of 1 to 3

*E and Eb horizon:*

*Color*—hue of 5YR to 10YR; value of 4 to 6; chroma  
of 2 or 3

*Bhs horizon:*

*Color*—hue of 10R to 5YR; value of 2 or 3; chroma  
of 2 or 3

*Texture*—silt loam, fine sandy loam, sandy loam, or  
loam

*Bs/Eb horizon:*

*Color*—hue of 2.5YR to 10YR; value of 3 to 5;  
chroma of 2 to 8

*Texture*—silt loam, fine sandy loam, or sandy loam

*2BC horizon:*

*Color*—hue of 10YR or 2.5Y; value of 3 or 4;  
chroma of 4 to 6

*Texture*—loam or sandy loam

*Coarse fragment content*—30 to 45 percent gravel  
and 5 to 25 percent cobbles

## **Smithfha Series**

### **Taxonomic Classification**

- Coarse-loamy, mixed, superactive Typic  
Dystrocrypts

*Depth class:* very deep

*Drainage class:* well drained

*Parent material:* ash influenced eolian deposits

*Landform:* plains, escarpments, and hills

*Slope:* 0 to 45 percent

*Elevation:* 16 to 820 feet

*Precipitation:* 14 to 20 inches

*Mean annual temperature:* 35 degrees F

### **Typical Pedon Location**

*Map unit in which located:* 451-Smithfha-Anchorpark  
complex, undulating and hilly in the Anchorage  
Area Soil Survey

*Location in the survey area:* SE¼NW¼, Section 5,  
T12N, R4W, Seward Meridian

### **Typical Pedon**

- Oe—0 to 3 inches (0 to 8 cm); moderately decomposed plant material; strongly acid (pH 5.4); abrupt wavy boundary.
- E—3 to 4 inches (8 to 10 cm); dark gray (10YR 4/1) loamy very fine sand; weak fine granular structure; very friable, nonsticky and nonplastic; common very fine to medium roots and few coarse roots; moderately acid (pH 5.6); abrupt smooth boundary.
- Bw1—4 to 8 inches (10 to 20 cm); dark yellowish brown (10YR 3/4) loamy very fine sand; weak fine granular structure; very friable, nonsticky and nonplastic; common very fine to medium roots and few coarse roots; moderately acid (pH 5.8); clear smooth boundary.
- Bw2—8 to 18 inches (20 to 46 cm); dark yellowish brown (10YR 4/4) loamy very fine sand; weak fine granular structure; very friable, nonsticky and nonplastic; few very fine to coarse roots; slightly acid (pH 6.2); abrupt wavy boundary.
- Eb—18 to 19 inches (46 to 48 cm); dark grayish brown (10YR 4/2) loamy very fine sand; weak fine granular structure; very friable, nonsticky and nonplastic; few very fine and fine roots; moderately acid (pH 5.8); abrupt wavy boundary.
- Bwb—19 to 29 inches (48 to 74 cm); brown (10YR 4/3) loamy very fine sand; weak fine granular structure; very friable, nonsticky and nonplastic; few very fine to fine roots; common medium distinct grayish brown (2.5Y 5/2) skeletal; slightly acid (pH 6.2); clear wavy boundary.
- C—29 to 60 inches (74 to 152 cm); dark grayish brown (2.5Y 4/2) loamy very fine sand; single grain; loose, very friable, nonsticky and nonplastic; few roots; slightly acid (pH 6.2).

### **Range in Characteristics**

*Coarse fragment content:* 0 to 15 percent  
*Reaction:* moderately acid or slightly acid

#### *E horizon:*

*Color*—hue of 10YR or 2.5Y; value of 4 or 5; chroma of 1 or 2  
*Texture*—loamy very fine sand, very fine sandy loam, or silt loam

#### *Bw horizon:*

*Color*—hue of 10YR or 2.5Y; value of 4 or 5; chroma of 2 to 6  
*Texture*—loamy very fine sand, very fine sandy loam, or silt loam

#### *Eb horizon (where present):*

*Color*—hue of 10YR or 2.5Y; value of 4 or 5; chroma of 1 or 2

*Texture*—loamy very fine sand or sandy loam

#### *Bwb horizon (where present):*

*Color*—hue of 10YR or 2.5Y; value of 4 or 5; chroma of 2 to 6

*Texture*—loamy very fine sand or sandy loam

#### *C horizon:*

*Color*—hue of 10YR or 2.5Y; value of 4 to 6; chroma of 2 to 4

*Texture*—loamy very fine sand, sand, or fine sand

## **Susitna Series**

### **Taxonomic Classification**

- Coarse-loamy, mixed, superactive, nonacid Typic Cryofluvents

*Depth class:* very deep

*Drainage class:* well drained

*Parent material:* stratified alluvium

*Landform:* flood plains and low alluvial terraces

*Slope:* 0 to 7 percent

*Elevation:* 20 to 800 feet

*Precipitation:* 15 to 25 inches

*Mean annual temperature:* 35 degrees F

### **Typical Pedon Location**

*Map unit in which located:* 185-Susitna silt loam, 0 to 2 percent slopes in the Matanuska-Susitna Valley Area Soil Survey

*Location in the survey area:* SE¼NW¼, Section 34,  
T26N, R5W, Seward Meridian

### **Typical Pedon**

- Oe—0 to 1 inch (0 to 3 cm); moderately decomposed plant material; many roots; strongly acid (pH 5.2); clear smooth boundary.
- A—1 to 4 inches (3 to 10 cm); dark brown (10YR 3/3) silt loam with common medium prominent reddish brown (5YR 4/4) mottles; weak medium

granular structure; very friable, nonsticky and nonplastic; many roots; strongly acid (pH 5.4); clear smooth boundary.

C1—4 to 12 inches (10 to 30 cm); dark grayish brown (10YR 4/2) fine sand stratified with silt and very fine sand with common large reddish brown (5YR 4/4) mottles; weak medium subangular blocky structure; very friable, nonsticky and nonplastic; strongly acid (pH 5.4); clear smooth boundary.

C2—12 to 34 inches (30 to 86 cm); very dark grayish brown (10YR 3/2) fine sand stratified with silt and very fine sand with few fine prominent brown (7.5YR 4/4) mottles; massive; very friable, nonsticky and nonplastic; moderately acid (pH 5.6); gradual smooth boundary.

C3—34 to 52 inches (86 to 132 cm); very dark grayish brown (2.5Y 3/2) and dark grayish brown (2.5Y 4/2) fine sand stratified with silt and very fine sand; few fine prominent yellowish red (5YR 4/6) mottles; massive; very friable, nonsticky and nonplastic; moderately acid (pH 5.6); gradual smooth boundary.

2C—52 to 60 inches (132 to 152 cm); variegated extremely gravelly coarse sand; single grain; loose; nonsticky and nonplastic; 60 percent rounded gravel; moderately acid (pH 5.8).

### **Range in Characteristics**

*Reaction:* very strongly acid to moderately acid

#### *A horizon:*

Color—hue of 10YR to 5Y; value of 2 to 4; chroma of 1 to 3

Texture—silt loam, fine sandy loam, and loamy fine sand

#### *C horizons:*

Color—hue of 10YR to 5Y; value of 3 to 6; chroma of 1 to 4; mottles of reddish, brownish, or olive

#### *2C horizon (where present):*

Color—variegated

Texture—sand and gravel

Coarse fragment content—0 to 20 percent cobbles and 35 to 60 percent gravel

## **Susivar Series**

### ***Taxonomic Classification***

- Coarse-loamy, mixed, superactive, nonacid Typic Cryaquents

*Depth class:* very deep

*Drainage class:* somewhat poorly drained

*Parent material:* stratified loamy alluvium more than 40 inches thick, underlain by very gravelly sand

*Landform:* flood plains and low stream terraces

*Slope:* 0 to 3 percent

*Elevation:* 10 to 700

*Precipitation:* 15 to 30 inches

*Mean annual temperature:* 35 degrees F

### ***Typical Pedon Location***

*Map unit in which located:* 186-Susivar-Moose River complex, 0 to 2 percent slopes in the Matanuska-Susitna Valley Area Soil Survey

*Location in the survey area:* NW¼SW¼, Section 1, T18N, R6W, Seward Meridian

### ***Typical Pedon***

Oi—0 to 2 inches (0 to 5 cm); slightly decomposed plant material; strongly acid (pH 5.2); clear smooth boundary.

A—2 to 5 inches (5 to 13 cm); very dark brown (10YR 2/2) silt loam; moderately fine granular structure; very friable, nonsticky and nonplastic; many very fine and fine and few medium roots; moderately acid (pH 5.6); clear smooth boundary.

ACg—5 to 11 inches (13 to 28 cm); very dark brown (10YR 2/2) and dark greenish gray (5GY 4/1) silt loam stratified with few lenses of very fine and fine sand; moderate medium subangular blocky structure; very friable, nonsticky and nonplastic; common very fine and fine roots; common medium distinct strong brown redoximorphic concentrations; moderately acid (pH 5.6); clear smooth boundary.

Cg1—11 to 27 inches (28 to 69 cm); olive gray (5Y 4/2) and dark brown (10YR 3/3) stratified fine sand, very fine sand and silt; massive; very

friable, nonsticky and nonplastic; few very fine roots; common medium prominent reddish brown (5YR 4/4) redoximorphic concentrations; moderately acid (pH 5.6); clear smooth boundary.

Cg2—27 to 39 inches (69 to 99 cm); reddish brown (5YR 4/4) stratified very fine sand and silt; massive; very friable, nonsticky and nonplastic; common large prominent dark greenish gray (5GY 4/1) redoximorphic depletions; moderately acid (pH 5.8); gradual smooth boundary.

C3—39 to 60 inches (99 to 152 cm); dark brown (10YR 3/3) stratified fine sand, very fine sand and silt; massive; very friable, nonsticky and nonplastic; few medium distinct strong brown (7.5YR 4/6) redoximorphic concentrations; moderately acid (pH 5.8).

### **Range in Characteristics**

*Depth to sand and gravel:* 40 to greater than 60 inches

*Reaction:* strongly acid or moderately acid

#### *A horizon:*

Color—hue of 10YR to 5Y; value of 3 or 4; chroma of 1 to 3

Texture—stratified silt loam, fine sandy loam, and loamy fine sand

#### *ACg and Cg horizons:*

Color—hue of 5YR to 5GY; value of 3 to 6; chroma of 1 to 4; common to many greenish gray through red redoximorphic features

#### *C horizons:*

Color—hue of 10YR to 5Y; value of 3 or 4; chroma of 1 to 4

#### *2C horizon (where present):*

Color—variegated

Texture—sand and gravel

Coarse fragment content—10 to 20 percent cobbles and 30 to 50 percent gravel

## **Talkeetna Series**

### **Taxonomic Classification**

- Medial over loamy-skeletal, amorphic over mixed superactive Andic Humicryods

*Depth class:* deep to very deep

*Drainage class:* well drained

*Parent material:* thin mantle of ash-influenced loess over glacial till

*Landform:* mountain slopes and structural benches

*Slope:* 0 to 85 percent

*Elevation:* 600 to 3,937 feet

*Precipitation:* 20 to 50 inches

*Mean annual temperature:* 34 degrees F

### **Typical Pedon Location**

*Map unit in which located:* 189-Talkeetna-Talkeetna, thick surface complex, 15 to 35 percent slopes in the Matanuska-Susitna Valley Area Soil Survey

*Location in the survey area:* NW¼SW¼, Section 36, T20N, R1E, Seward Meridian

### **Typical Pedon**

Oi—0 to 3 inches (0 to 8 cm); slightly decomposed plant material and mat of roots; very strongly acid (pH 4.6); clear smooth boundary.

A—3 to 6 inches (8 to 15 cm); dark reddish brown (5YR 2/2) silt loam; strong fine granular structure; very friable, sticky and slightly plastic; many roots; mineral grains are coated and have a waxy appearance; extremely acid; clear wavy boundary.

E—6 to 7 inches (15 to 18 cm); dark gray (10YR 4/1) silt loam; weak very thin platy structure; very friable, slightly sticky and slightly plastic; many roots; many uncoated mineral grains; extremely acid; clear wavy boundary.

Bhs—7 to 10 inches (18 to 25 cm); very dusky red (2.5YR 2/2) silt loam; moderately thin platy structure parting to moderately fine granular; smeary; many roots; extremely acid; clear wavy boundary.

Bs1—10 to 14 inches (25 to 36 cm); dark reddish brown (2.5YR 3/4) silt loam; weak thin platy structure parting to moderately fine granular; smeary; nonsticky and slightly plastic; many roots; many mica flakes; extremely acid; clear wavy boundary.

Bs2—14 to 18 inches (36 to 46 cm); dark reddish brown (5YR 3/4) silt loam; moderately thin platy structure parting to moderately fine granular; smeary; nonsticky and lightly plastic; very strongly acid; clear wavy boundary.

2C1—18 to 28 inches (46 to 71 cm); olive gray (5Y 5/2) very gravelly sandy loam; strong medium platy structure; very firm; patches and seams of red (2.5YR 4/6) along plates; strongly acid; gradual boundary.

2C2—28 to 60 inches (71 to 152 cm); olive gray (5Y 4/2) very gravelly sandy loam; strong medium platy structure; firm, nonsticky and nonplastic; few red (2.5YR 4/6) mottles; strongly acid.

### **Range in Characteristics**

*Depth to glacial till:* 15 to 24 inches

*Other:* some profiles are bisequal

*A horizon (where present):*

Color—hue of 5YR to 10YR; value of 2 to 4; chroma of 1 or 2

Texture—silt, silt loam, or very fine sandy loam.

Reaction—extremely acid to strongly acid.

*Bhs horizon:*

Color—hue of 10YR to 2.5YR; value of 2 or 3; chroma of 1 or 2

Texture—silt, silt loam or very fine sandy loam

Reaction—extremely acid to strongly acid

*Bs horizons:*

Color—hue of 2.5YR to 7.5YR; value and chroma of 3 or 4

Texture—silt, silt loam, or very fine sandy loam

Reaction—extremely acid to strongly acid

*2C horizon:*

Color—hue of 2.5Y or 5Y; value of 4 or 5; chroma of 2 or 3

Texture—sandy loam or loam

Coarse fragment content—30 to 55 percent gravel and 10 to 45 percent cobbles.

Reaction—very strongly acid to moderately acid

## **Typic Cryaquents**

### **Taxonomic Classification**

- Typic Cryaquents

*Depth class:* very deep

*Drainage class:* very poorly drained

*Parent material:* sandy and silty alluvium, silty marine deposits

*Landform:* flood plains, tidal flats

*Slope:* 0 to 2 percent

*Elevation:* 0 to 40 feet

*Precipitation:* 14 to 25 inches

*Mean annual temperature:* 35 degrees F

### **Representative Pedon Location**

*Map unit in which located:* 462-Typic Cryaquept and Typic Cryaquept soils, 0 to 2 percent slopes in the Anchorage Area Soil Survey

*Location in the survey area:* SE¼SW¼, Section 8, T12N, R4W, Seward Meridian; 1½ miles south of Ted Stevens Anchorage International Airport, Alaska

### **Representative Pedon**

Cg1—0 to 16 inches (0 to 41 cm); dark gray (N 4/0) silt loam; massive; friable, slightly sticky and slightly plastic; common very fine, fine, medium, and coarse roots; common medium prominent dark gray (10YR 4/1) redoximorphic depletions; moderately alkaline (pH 8.0); gradual smooth boundary.

Cg2—16 to 21 inches (41 to 53 cm); very dark gray (N 3/0) silt loam; massive; friable, slightly sticky and slightly plastic; few very fine, fine, medium roots, and coarse roots; moderately alkaline (pH 8.0); gradual smooth boundary.

Cg3—21 to 60 inches (53 to 152 cm); dark gray (N 4/0) silt loam; massive; friable, slightly sticky and slightly plastic; few very fine and fine roots; few medium prominent dark gray (10YR 4/1) redoximorphic depletions; moderately alkaline (pH 8.0).

### **Range in Characteristics**

*A horizon (where present):*

Color—hue of 10YR; value of 4; chroma of 2

Texture—silt loam

Coarse fragment content—0 to 15 percent gravel, 0 to 15 percent cobbles, and 0 to 3 percent stones

Reaction—very strongly acid to slightly acid

*Cg horizons:*

Color—hue of 2.5Y to N; value of 3 to 5; chroma of 0 to 3

Texture—silt loam or sandy loam

Coarse fragment content—0 to 50 percent gravel, 0 to 15 percent cobbles, and 0 to 3 percent stones

Reaction—very strongly acid to moderately alkaline

## Typic Cryaquepts

### *Taxonomic Classification*

- Typic Cryaquepts

*Depth class:* very deep

*Drainage class:* very poorly drained

*Parent material:* coarse-silty marine deposits

*Landform:* beach terraces

*Slope:* 0 to 1 percent

*Elevation:* 0 to 50 feet

*Precipitation:* 14 to 20 inches

*Mean annual temperature:* 36 degrees F

### *Representative Pedon Location*

*Map unit in which located:* 462-Typic Cryaquept and Typic Cryaquept soils, 0 to 2 percent slopes in the Anchorage Area Soil Survey

*Location in the survey area:* SE¼SE¼, Section 32, T16N, R1W, Seward Meridian

### *Representative Pedon*

Ag—0 to 12 inches (0 to 30 cm); dark gray (N 4/0) silt loam; weak fine subangular blocky structure parting to weak fine platy; friable, slightly sticky and nonplastic; common very fine, fine, and medium roots; moderately alkaline (pH 8.0); gradual smooth boundary.

Bg1—12 to 30 inches (30 to 76 cm); very dark gray (N 3/0) silt loam; weak medium platy structure parting to weak fine platy; friable, slightly sticky and nonplastic; few very fine and fine roots; common medium and coarse prominent strong brown (7.5YR 4/6) redoximorphic concentrations; moderately alkaline (pH 8.0); gradual smooth boundary.

Bg2—30 to 38 inches (76 to 97 cm); very dark gray (N 3/0) silt loam, moderate medium platy structure parting to moderate fine angular blocky; friable, slightly sticky and nonplastic; common coarse prominent yellowish red (5YR 4/6) redoximorphic concentrations; moderately alkaline (pH 8.0); clear smooth boundary.

Cg—38 to 60 inches (97 to 152 cm); very dark gray (N 3/0) silt loam; massive; friable, slightly sticky and nonplastic; moderately alkaline (pH 8.0).

## *Range in Characteristics*

*Ag horizon:*

Color—value of 4 or 5

Reaction—slightly alkaline to moderately alkaline

*Bg horizon*

Color—value of 3 to 5

Texture—silty clay loam or silt loam

Reaction—slightly alkaline to moderately alkaline

*Cg horizon:*

Color—value of 3 to 5

Texture—silty clay loam or silt loam

Reaction—slightly alkaline to moderately alkaline

## Whitsol Series

### *Taxonomic Classification*

- Medial over loamy, mixed Andic Haplocryods

*Depth class:* very deep

*Drainage class:* well drained

*Parent material:* ash influenced loess mantle overlying gravelly glaciofluvial deposits

*Landform:* till plains and hills

*Elevation:* 16 to 1,500 feet

*Slope:* 0 to 60 percent

*Precipitation:* 14 to 27 inches

*Mean annual temperature:* 35 degrees F

### *Typical Pedon Location*

*Map unit in which located:* 205-Whitsol silt loam, 0 to 2 percent slopes in the Matanuska-Susitna Valley Area Soil Survey

*Location in the survey area:* E½, Section 18, T20N, R4W, Seward Meridian; one-quarter mile east of the railroad tracks and three-quarters of a mile southeast of Kashwitna Lake, Alaska

### *Typical Pedon*

Oi—0 to 3 inches (0 to 8 cm); slightly decomposed plant material; many roots; mycelia; very strongly acid (pH 4.5); abrupt wavy boundary.

E—3 to 5 inches (8 to 13 cm); gray (10YR 5/1) silt loam; weak thin platy structure; very friable, nonsticky and nonplastic; many roots; charcoal fragments; very strongly acid (pH 4.8); abrupt irregular boundary.

- Bs1—5 to 7 inches (13 to 18 cm); dark reddish brown (5YR 3/4) silt loam; moderately fine granular structure; very friable, nonsticky and nonplastic; common roots; patches of brown (7.5YR 4/4); few very fine concretions; strongly acid (pH 5.2); clear wavy boundary.
- Bs2—7 to 14 inches (18 to 36 cm); strong brown (7.5YR 5/6) silt loam; weak thin platy structure; friable, nonsticky and nonplastic; common roots; slightly smeary when rubbed; streaks and patches of brown (7.5YR 4/4) and yellowish brown (10YR 5/4); strongly acid (pH 5.4); abrupt wavy boundary.
- Eb—14 to 16 inches (36 to 41 cm); grayish brown (2.5Y 5/2) silt loam; weak thin platy structure; friable, nonsticky and nonplastic; few roots; strongly acid (pH 5.4); abrupt broken boundary.
- Bsb—16 to 20 inches (41 to 51 cm); brown (7.5YR 4/4) and dark yellowish brown (10YR 4/4) silt loam with convoluted color pattern; few patches of Eb material; weak fine subangular blocky structure; very friable, nonsticky and nonplastic; gritty when rubbed; few roots; strongly acid (pH 5.4); clear wavy boundary.
- BCb—20 to 26 inches (51 to 66 cm); dark yellowish brown (10YR 4/4) and olive brown (2.5Y 4/4) silt loam with convoluted color pattern; weak thin platy structure; friable, nonsticky and nonplastic; few roots; few fine pores; strongly acid (pH 5.4); gradual smooth boundary.
- C1—26 to 37 inches (66 to 94 cm); olive (5Y 4/3) silt loam; moderately thin platy structure; friable, nonsticky and nonplastic; few fine pores; strongly acid (pH 5.4); clear smooth boundary.
- 2C2—37 to 47 inches (94 to 119 cm); olive gray (5Y 4/2) very fine sandy loam; massive; friable, nonsticky and nonplastic; few stratas of olive brown (2.5Y 4/4) fine sand; strongly acid (pH 5.4); clear smooth boundary.

- 3C3—47 to 60 inches (119 to 152 cm); olive (5Y 4/3) very gravelly coarse sand; single grain; loose; few pockets of silt and fine sand; many rounded cobbles; strongly acid (pH 5.4).

### ***Range in Characteristics***

*Depth to glacialfluvial material:* 40 to over 60 inches

*A horizon (where present):*

Color—hue of 10YR; value and chroma of 2 or 3

Texture—silt loam, loam, or very fine sandy loam

Reaction—very strongly acid to moderately acid

*E horizon:*

Color—hue of 10YR or 2.5Y; value of 4 or 5; chroma of 1 or 2

Reaction—very strongly acid to moderately acid

*B horizon:*

Color—hue of 5YR or 7.5YR; value of 3 to 5; chroma of 3 to 6

Reaction—very strongly acid to moderately acid

*2C horizon:*

Color—hue of 10YR to 5Y; value of 3 to 5; chroma of 2 to 4

Texture—stratified silt loam, loam, very fine sandy loam, sandy loam, fine sand, and sand

Reaction—strongly acid to slightly acid

*3C horizon:*

Color—hue of 10YR to 5Y or variegated; value of 3 to 5; chroma of 2 to 4

Texture—coarse sand, sand, sandy loam, or loam  
Coarse fragment content—35 to 65 percent gravel and cobbles

Reaction—strongly acid to slightly acid

# Formation of the Soils

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Soil is the natural medium for the growth of our native forests, rangelands, and agricultural crops. It helps regulate runoff; filter and purify our water; support our roads, houses and other structures; and provide us with a variety of construction materials. Soil, and the vegetation it supports, are habitat for moose, bears, and a wide variety of other wildlife.

Although the soils we observe and use today appear stable, soil formation is a gradual and continually occurring process. Over time, the influence and interaction of a variety of dynamic genetic and environmental factors including climate, time, geologic parent materials, topography, and living organisms form a soil. The cumulative effects of these factors vary from place to place and determine the kinds of soils that form. The resultant soils exhibit significantly different physical, chemical, and morphologic properties than the materials from which they were derived.

## Climate

The climate of the survey area can be characterized as a blend of the mild, moist maritime influence of Prince William Sound and the Gulf of Alaska and the cold, dry continental influence of interior Alaska. Two distinct climatic zones and associated soil zones are recognized within the survey area, the lowlands surrounding Anchorage and adjacent mountains.

## Lowlands

This area extends from Cook Inlet to the toeslopes of the Chugach Mountains. The lowlands lie in the rain shadow created by the Chugach Mountains and are characterized by relatively low precipitation, ranging from 14 to 20 inches (36 to 51 cm). The average annual precipitation is about 16 inches (41 cm). Potential evapotranspiration (water loss) from a fully vegetated surface is about 20 inches (51 cm) ([Patric and Black, 1968](#)). Since

potential evapotranspiration exceeds precipitation, a moisture deficit is present, especially during late spring when precipitation is low and air temperature is relatively warm.

Localized winds are common during summer. Also, winter storm systems in Prince William Sound generate warm downslope winds along the western flanks of the Chugach Mountains, resulting in mid-winter thaws and rain.

The combination of strong winds, thawing temperatures, and rainfall during most winters reduces or removes the insulating snow cover and has a significant impact on soil temperature and frost penetration.

Winds from Turnagain Arm have a profound influence on soil development in the exposed areas on the windward sides of Fire Island and Kincaid Park. Inceptisols are the dominant soil order in this area and include Smithfha and Anchorpark soils. These soils have a weak to moderate horizon expression that can be attributed to the gradual but constant accumulation of loess.

In areas of the lowlands protected from wind, snowpack is thicker and effectively insulates the soil. Frost penetration is generally less despite occasional periods of cold winter temperatures.

Soils have better development in wind protected areas. This is attributed to lower rates of eolian material deposition. Spodosols are common and have thin gray leached surface horizons over reddish brown subsoils.

## Mountains

This area consists of the sideslopes and ridges of the Chugach Mountains. High annual precipitation, ranging from 20 to 50 inches (51 to 127 cm), and deep snowfall characterize the climate. Rain is common during the summer, and the mountains experience strong, localized winds during all seasons. Ridges and other exposed locations are usually blown free of snow, resulting in deep annual frost. Annual frost penetration is

relatively shallow on lee slopes, in depressions, and other areas where snow accumulates.

Climatically influenced soil processes include weathering and leaching of soil minerals by precipitation, weathering of rock, and movement of materials by frost action and cryoturbation. Soils on exposed, windswept ridges and slopes at higher elevations have thin dark soils over frost shattered bedrock. Rock fragments cover much of the surface on these soils. Exposed ridges at intermediate elevations are mantled with eolian material and experience deep frost penetration. Cryoturbation churns, desiccates, and heaves soil materials, forming hummocky surface microtopography such as that found in areas of Hurdygurdy soils. Soils on lee slopes and in depressions are insulated from frost by deep snow cover and receive moisture from spring and summer snowmelt. These soils have well developed horizon characteristics typical of Talkeetna soils, with gray leached surface horizons and dark reddish brown subsoils.

## Soil-Landform Relationships

### Mountains

The eastern portion of the survey area includes the high valleys and peaks of the Chugach Mountains. Soil parent materials consist primarily of glacial till and outwash. Dominant soils on backslopes and toeslopes are the well drained Talkeetna soils, formed in mixed volcanic ash and loess about 17 inches (43 cm) thick over very cobbly and loamy glacial till. These soils are well developed with pronounced horizonation, reflecting the greater precipitation at higher elevations. The degree of profile development is particularly evident in the "Bhs" horizon, which ranges from 4 to 6 inches (10 to 15 cm) thick.

Talkeetna and Chugach soils occur across a rather wide elevation range, from about 740 to 3,900 feet (225 to 1,188 m). These soils have been subdivided into a "cool" phase based on differences in potential vegetation and productivity. Typical Talkeetna and Chugach soils occupy the upper-forested zone and support open stands of mixed paper birch-white spruce and white spruce. "Cool" phases are found at and above treeline and support bluejoint reedgrass-forb grasslands and alder scrub.

Other common soils found in association with Talkeetna soils in the subalpine zone are poorly drained Histic Cryaquept soils. Histic Cryaquepts are saturated during much of the spring and late

summer. The prolonged saturation inhibits decomposition of organic matter, allowing a buildup in the surface horizons. Histic Cryaquept soils have dark, highly organic surface horizons.

Above treeline, Hurdygurdy and Siwash soils formed in a layer of mixed volcanic ash and loess over firm glacial till, are dominant. Earth hummocks are present primarily in response to cold temperatures and frost action. Deep frost penetration in winter (enhanced when winds remove and redistribute snow) and freeze-thaw cycles in fall and spring cause considerable mixing and redistribution of soil materials, resulting in the hummocks. While soil horizons are often convoluted and fractured from frost churning, the high degree of horizon expression suggests that these soils have experienced prolonged periods of surface stability. Soil horizonation in Hurdygurdy and Siwash soils consists of an "E" and "Bhs" sequence. The landscape is generally dominated by dwarf black crowberry and ericaceous shrub vegetation on earth hummocks.

Steep mountainous areas about 1,300 to 5,400 feet (396 to 1,645 m) elevation comprise the upper limits of the survey area. Nakochna soils, in association with extensive areas of rock outcrop, are dominant. Annual biomass production is low, however, low soil temperatures allow organic materials to accumulate in surface soil horizons. Frost churning of unconsolidated materials incorporates organic matter into the soil profile. Vegetation consists of a variety of dwarf shrub, lichen, and herbaceous plant communities characteristic of the alpine zone.

### Plains and Hills

Windblown eolian material forms clouds of dust which settle and accumulate on upland surfaces. Where there are significant annual eolian deposits, upper soil horizon expression is weak and soil properties reflect the properties of unaltered wind blown materials. Eolian materials in the survey area include sand and silt size particles. The lower soil horizons reflect the properties of glacially influenced parent materials.

The upland landscape on Fire Island and in Kincaid Park consists primarily of eolian plains and hills. Dominant soils are Anchorpark and Smithfha soils. The eolian cap on these soils is usually greater than 5 feet thick. The eolian material here is dominantly sand.

Chemical properties of Anchorpark and Smithfha soils include moderately acid to neutral pH and high base saturation. Physical properties include high

porosity and low to moderate total available water capacity. Frost penetration in these soils is deep, as winter winds tend to remove the insulating snow cover.

Although eolian material is deposited on the soil surface on a regular basis, annual accretions are minor, and Anchorpark and Smithfha soils are sufficiently stable for the development of brown “Bw” or cambic subsurface horizons. Soil forming processes include oxidation of primary minerals that impart a yellowish appearance to the upper profile. Translocation of soil nutrients or bases, which promotes the acidification of the upper horizons, is also typical of the cambic horizons.

Elsewhere in the survey area, eolian material is dominantly silt size loess and volcanic ash. The mantle is about 6 to 18 inches (15 to 46 cm) thick. Kichatna, Kashwitna, Estelle, and Deception soils are dominant. The substratum in Kichatna and Kashwitna soils is very gravelly and sandy glacial outwash; in Deception and Estelle soils, it is very gravelly, loamy glacial till.

Annual loess accretions on Kichatna and Deception soils are very low, and these soils are stable enough for the development of gray “E” or albic horizons over strong brown “Bs” or spodic subsurface horizons. Processes include leaching and translocation of the primary minerals iron and aluminum from the albic horizon into the spodic horizon. Translocation of soil nutrients or bases promotes acidification of upper horizons. Chemically, the upper parts of these soils are acidic (pH 4.6 to 5.7), have a low base saturation, and have a decreased organic matter content with depth. The available water capacity of Kichatna and Deception soils is very low due to the thin loess mantle.

### Stream Terraces

Stream terraces are former flood plains that, due to the natural down cutting of the river or stream, are elevated above the current flood plain and no longer subject to periodic flooding. Intermittent, discontinuous stream terraces are found in association with the river systems in the survey area. Dominant soils on stream terraces are the moderately well drained Matsu soils, formed in sandy and silty alluvium.

### Flood Plains

Flood plains are nearly level lands composed of sediments deposited during overflow and lateral migration of streams. Extensive flood plains about 300 to 2,500 feet (91 to 762 m) or more in width occur along the Eklutna and Eagle Rivers. Narrow flood plains are present along most perennial clear water streams. Flood plains consist of a variety of landforms including braided channels, point bars, natural levees, and backswamps.

The water table in flood plain areas fluctuates in response to changes in river levels. Discharge from adjoining bogs, marshes, sloughs, and uplands often helps maintain the water table even as the level of the river or stream drops.

Flood plains occur along Eagle River, Eklutna River, Campbell Creek, and the south fork of Campbell Creek. Soils include Moose River and Niklason soils. Nicklason soils formed in a thin layer of stratified sandy and silty alluvium over very gravelly alluvium. These soils are weakly developed with little horizonation due to the frequency of flooding and the associated deposition and erosion of materials.

### Depressions

Very deep and very poorly drained Histosols, or organic soils, develop where saturated and anaerobic conditions favor organic matter accumulation. These occur in depressions throughout the survey area. Strata of volcanic ash and mineral material are common throughout these organic soils. Doroshin is a dominant soil that occurs in depressions in drainageways and outwash plains. Vegetation consists of stunted black spruce woodland with ericaceous shrubs and mosses in the understory, low and dwarf ericaceous shrub scrub, and sedge-grass wet meadows and bog meadows.

The degree and duration of saturation influences the type of soil that forms. Disappoint and Jacobsen soils in depressions on till plains experience wide fluctuations in saturation throughout the growing season. The water table is highest during spring, due to snowmelt, and again in late summer, due to increased rainfall. In depressions between hills, water accumulates not only from snowmelt and rain but also from run-in from surrounding uplands.



# References

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American Association of State Highway and Transportation Officials (AASHTO). 2000. Standard specifications for transportation materials and methods of sampling and testing. 20th edition, 2 volumes.

American Society for Testing and Materials (ASTM). 2001. Standard classification of soils for engineering purposes. ASTM Standard D 2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. February 24, 1995. Hydric soils of the United States.

Hurt, G.W., P.M. Whited, and R.F. Pringle, editors. Version 4.0, 1998. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Patric, J.H., and P.E. Black. 1968. Potential evapotranspiration and climate in Alaska by Thornthwaite's Classification. USDA Forest Service, Pacific Northwest Research Station. General Technical Report PNW-71.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1998. Keys to soil taxonomy. 8th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture (USDA), Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210.

United States Department of Agriculture (USDA), Soil Conservation Service.  
1979. Anchorage Area Soil Survey. Vol. 7. U.S. Army Corps of Engineers  
Metropolitan Anchorage Urban Study.

United States Department of Agriculture (USDA), Soil Conservation Service.  
1981. Land resource regions and major land resource areas of the United States.  
U.S. Department of Agriculture Handbook 296.

# Glossary

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- Aeration, soil.** The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.
- Aggregate, soil.** Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.
- Albic horizon.** A light colored surface or lower horizon from which clay and free iron oxides have been removed or so segregated as to permit the color to be determined primarily by the primary sand and silt particles.
- Alluvial fan.** The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.
- Alluvium.** Material, such as sand, silt, or clay, deposited on land by streams.
- Alpha, alpha-dipyridyl.** A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.
- Aquic conditions.** Current soil wetness characterized by saturation, reduction, and redoximorphic features.
- Aspect.** The direction in which a slope faces.
- Association, soil.** A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.
- Available water capacity (available moisture capacity).** The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:
- |                 |              |
|-----------------|--------------|
| Very low.....   | 0 to 3       |
| Low.....        | 3 to 6       |
| Moderate .....  | 6 to 9       |
| High .....      | 9 to 12      |
| Very high ..... | more than 12 |
- Backslope.** The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.
- Basal till.** Compact glacial till deposited beneath the ice.
- Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.
- Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.
- Bedrock-controlled topography.** A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.
- Boulders.** Rock fragments larger than 2 feet (61 cm) in diameter.
- Cambic horizon.** A horizon that has been altered or changed by soil forming processes. It usually occurs below a diagnostic surface horizon (epipedon).
- Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.
- Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.
- Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as

applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

- Channery soil material.** Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 cm) along the longest axis. A single piece is called a channer.
- Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.
- Coarse textured soil.** Sand or loamy sand. Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 cm) in diameter.
- Cobbly soil material.** Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 cm) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.
- COLE (coefficient of linear extensibility).** See Linear extensibility.
- Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.
- Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.
- Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.
- Conservation cropping system.** Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

**Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

**Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the *Soil Survey Manual*.

**Control section.** The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches (25 cm) and 40 or 80 inches (102 or 203 cm).

**Corrosion.** Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

**Cover crop.** A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

**Cropping system.** Growing crops according to a planned system of rotation and management practices.

**Crop residue management.** Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

**Cryoturbation.** Mixing of the soil matrix within the pedon that results in irregular or broken horizons, involutions, accumulation of organic matter on the permafrost table, oriented rock fragments, and silt caps on rock fragments.

**Depth, soil.** Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches (152 cm) deep over bedrock; deep soils, 40 to 60 inches (102 to 152 cm); moderately deep, 20 to 40 inches (51 to 102 cm); shallow, 10 to 20 inches (25 to 51 cm); and very shallow, less than 10 inches (25 cm).

**Drainage class (natural).** Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil.

Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained*. These classes are defined in the *Soil Survey Manual*.

**Drainage, surface.** Runoff, or surface flow of water, from an area.

**Duff.** A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

**Eluviation.** The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

**Endosaturation.** A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters (7 ft) are saturated.

**Eolian soil material.** Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

**Episaturation.** A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters (7 ft) of the surface.

**Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep. *Erosion (geologic).* Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

*Erosion (accelerated).* Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

**Escarpment.** A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

**Fan terrace.** A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

**Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture,

temperature, tilth, and other growth factors are favorable.

**Fibric soil material (peat).** The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

**Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity, or capillary capacity*.

**Fine textured soil.** Sandy clay, silty clay, or clay.

**Flaggy soil material.** Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

**Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 cm) long.

**Flood plain.** A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

**Fluvial.** Of or pertaining to rivers; produced by river action, as a fluvial plain.

**Forb.** Any herbaceous plant not a grass or a sedge.

**Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

**Glacial drift.** Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.

**Glacial outwash.** Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.

**Glacial till.** Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

**Glaciofluvial deposits.** Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.

**Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

**Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 mm to 7.6 cm) in diameter. An individual piece is a pebble.

**Gravelly soil material.** Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 cm) in diameter.

**Ground water.** Water filling all the unblocked pores of the material below the water table.

**Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

**Hardpan.** A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

**Hemic soil material (mucky peat).** Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

**High-residue crops.** Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

**Hill.** A natural elevation of the land surface, rising as much as 1,000 feet (305 m) above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

**Horizon, soil.** A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the *Soil Survey Manual*. The major horizons of mineral soil are as follows:

*O horizon.*—An organic layer of fresh and decaying plant residue.

*A horizon.*—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

*E horizon.*—The mineral horizon in which the

main feature is loss of silicate clay, iron, aluminum, or some combination of these.

*B horizon.*—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

*C horizon.*—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

*Cr horizon.*—Soft, consolidated bedrock beneath the soil.

*R layer.*—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

**Humus.** The well decomposed, more or less stable part of the organic matter in mineral soils.

**Hydrologic soil groups.** Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

**Igneous rock.** Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

**Illuviation.** The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

**Infiltration.** The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

**Infiltration capacity.** The maximum rate at which water can infiltrate into a soil under a given set of conditions.

**Infiltration rate.** The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

**Intermittent stream.** A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

**Iron depletions.** Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

**K<sub>sat</sub>.** Saturated hydraulic conductivity. (See Permeability.)

**Leaching.** The removal of soluble material from soil or other material by percolating water.

**Linear extensibility.** Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at  $1/3$ - or  $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

**Liquid limit.** The moisture content at which the soil passes from a plastic to a liquid state.

**Loam.** Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

**Loess.** Fine grained material, dominantly of silt-sized particles, deposited by wind.

**Low strength.** The soil is not strong enough to support loads.

**Masses.** Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide

generally are considered a type of redoximorphic concentration.

**Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.

**Metamorphic rock.** Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

**Mineral soil.** Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

**Miscellaneous area.** An area that has little or no natural soil and supports little or no vegetation.

**Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.

**Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.

**Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

**Moraine.** An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.

**Morphology, soil.** The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

**Mottling, soil.** Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 in); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 in); and *coarse*, more than 15 millimeters (about 0.6 in).

**Mountain.** A natural elevation of the land surface, rising more than 1,000 feet (305 m) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

**Muck.** Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

**Munsell notation.** A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

**Neutral soil.** A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

**Nutrient, plant.** Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

**Organic matter.** Plant and animal residue in the soil in various stages of decomposition.

**Outwash plain.** A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

**Parent material.** The unconsolidated organic and mineral material in which soil forms.

**Peat.** Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

**Ped.** An individual natural soil aggregate, such as a granule, a prism, or a block.

**Pedon.** The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square m to 10 square m), depending on the variability of the soil.

**Percolation.** The movement of water through the soil.

**Permeability.** The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the *Soil Survey Manual*. In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Extremely slow..... 0.0 to 0.01 inch  
 Very slow ..... 0.01 to 0.06 inch  
 Slow ..... 0.06 to 0.2 inch  
 Moderately slow..... 0.2 to 0.6 inch  
 Moderate.....0.6 inch to 2.0 inches  
 Moderately rapid..... 2.0 to 6.0 inches  
 Rapid ..... 6.0 to 20 inches  
 Very rapid ..... more than 20 inches

**Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

**pH value.** A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

**Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

**Plastic limit.** The moisture content at which a soil changes from semisolid to plastic.

**Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

**Poorly graded.** Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

**Productivity, soil.** The capability of a soil for producing a specified plant or sequence of plants under specific management.

**Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.

**Reaction, soil.** A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid..... less than 3.5  
 Extremely acid .....3.5 to 4.4  
 Very strongly acid .....4.5 to 5.0  
 Strongly acid.....5.1 to 5.5  
 Moderately acid .....5.6 to 6.0  
 Slightly acid.....6.1 to 6.5  
 Neutral .....6.6 to 7.3  
 Slightly alkaline .....7.4 to 7.8  
 Moderately alkaline.....7.9 to 8.4  
 Strongly alkaline .....8.5 to 9.0  
 Very strongly alkaline.....9.1 and higher

**Redoximorphic concentrations.** Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

**Redoximorphic depletions.** Low-chroma zones from which iron and manganese oxide or a

combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

**Redoximorphic features.** Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha, alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

**Reduced matrix.** A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

**Relief.** The elevations or inequalities of a land surface, considered collectively.

**Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

**Root zone.** The part of the soil that can be penetrated by plant roots.

**Runoff.** The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

**Sand.** As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

**Sapric soil material (muck).** The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

**Saturation.** Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

**Sequum.** A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

**Series, soil.** A group of soils that have profiles that are almost alike, except for differences in

texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

**Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

**Side slope.** A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland water flow is predominantly parallel.

**Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

**Similar soils.** Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

**Slope.** The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Nearly level.....	0 to 2 percent
Gently sloping .....	2 to 4 percent
Moderately sloping .....	4 to 8 percent
Strongly sloping.....	8 to 15 percent
Moderately steep.....	15 to 25 percent
Steep .....	25 to 45 percent
Very steep .....	More than 45 percent

**Soil.** A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

**Soil separates.** Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand .....	2.0 to 1.0
Coarse sand .....	1.0 to 0.5
Medium sand.....	0.5 to 0.25
Fine sand.....	0.25 to 0.10

Very fine sand.....	0.10 to 0.05
Silt.....	0.05 to 0.002
Clay.....	less than 0.002

**Solum.** The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

**Spodic horizon.** A subsurface diagnostic horizon containing an illuvial accumulation of free sesquioxides of iron and aluminum and of organic matter.

**Stones.** Rock fragments 10 to 24 inches (25 to 60 cm) in diameter if rounded or 15 to 24 inches (38 to 60 cm) in length if flat.

**Stony.** Refers to a soil containing stones in numbers that interfere with or prevent tillage.

**Structure, soil.** The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

**Subsoil.** Technically, the B horizon; roughly, the part of the solum below plow depth.

**Substratum.** The part of the soil below the solum.

**Subsurface layer.** Any surface soil horizon (A, E, AB, or EB) below the surface layer.

**Summit.** The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

**Surface layer.** The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 cm). Frequently designated as the “plow layer,” or the “Ap horizon.”

**Surface soil.** The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

**Terrace (geologic).** An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

**Texture, soil.** The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand*, *loamy sand*, *sandy loam*, *loam*, *silt loam*, *silt*, *sandy clay loam*, *clay loam*, *silty clay loam*, *sandy clay*, *silty clay*, and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

**Till plain.** An extensive area of nearly level to undulating soils underlain by glacial till.

**Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

**Topsoil.** The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

**Variation.** Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

**Weathering.** All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

**Well graded.** Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

**Wilting point (or permanent wilting point).** The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

# Tables

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Table 1.--Temperature and Precipitation at Anchorage, Alaska

Month	Temperature (Degrees F.)						Precipitation (Inches)				
	avg daily max	avg daily min	avg	2 yrs in 10 will have		avg # of grow deg. days*	avg	2 yrs in 10 will have		avg # of days w/.1 or more	avg total snow fall
				max temp. >than	min temp. <than			less than	more than		
January	21.4	8.3	14.9	46	-24	0	0.78	0.24	1.23	2	8.7
February	25.8	11.5	18.7	45	-17	0	0.79	0.40	1.13	2	11.0
March	33.1	18.1	25.6	47	-8	2	0.70	0.29	1.08	2	9.1
April	42.8	28.7	35.7	58	11	17	0.68	0.26	1.07	2	5.8
May	54.4	38.8	46.6	71	27	208	0.73	0.30	1.10	2	0.2
June	61.6	47.2	54.4	77	37	432	1.14	0.50	1.67	3	0.0
July	65.2	51.7	58.4	78	42	571	1.71	0.87	2.43	5	0.0
August	63.0	49.5	56.3	76	37	504	2.44	1.10	3.58	7	0.0
September	55.2	41.5	48.3	67	27	255	2.70	1.41	3.83	7	0.3
October	40.5	28.7	34.6	57	5	33	2.03	1.17	2.80	5	8.0
November	27.2	15.1	21.1	47	-10	2	1.11	0.40	1.70	3	10.5
December	22.5	10.0	16.2	45	-20	0	1.13	0.58	1.60	3	13.9
Yearly :											
Average	42.7	29.1	35.9	---	---	---	----	----	----	---	---
Extreme	85	-34	---	80	-25	---	----	----	----	---	---
Total	---	---	---	---	---	2026	15.93	12.78	18.91	43	67.6

Average # of days per year with at least 1 inch of snow on the ground: 151

\*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (Threshold: 40.0 degrees F)

Table 2.--Probability of frost at Anchorage, Alaska

Probability	Temperature		
	24F or lower	28F or lower	32F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	April 27	May 6	May 18
2 year in 10 later than--	April 23	May 2	May 15
5 year in 10 later than--	April 14	April 25	May 9
First freezing temperature in fall:			
1 yr in 10 earlier than--	October 4	September 21	September 7
2 yr in 10 earlier than--	October 7	September 25	September 12
5 yr in 10 earlier than--	October 13	October 3	September 22

Table 3.--Growing Season at Anchorage, Alaska

Probability	Daily Minimum Temperature		
	# days > 24F	# days > 28F	# days > 32F
9 years in 10	166	142	118
8 years in 10	171	148	124
5 years in 10	181	160	135
2 years in 10	192	173	147
1 year in 10	197	179	153

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Map unit name	Acres	Percent
400	Anchorpark loamy very fine sand, 30 to 85 percent slopes-----	986	0.3
401	Andic Humicryods-Rock outcrop association, 25 to 85 percent slopes-----	13,274	4.6
402	Clam Gulch silt loam, 0 to 7 percent slopes-----	642	0.2
403	Clam Gulch-Doroshin-Jacobsen complex, 0 to 15 percent slopes-----	658	0.2
404	Cryosaprists, 0 to 1 percent slopes-----	3,661	1.3
405	Cryorthents, silty, 5 to 65 percent slopes-----	102	*
406	Cryorthents and Urban land, 0 to 5 percent slopes-----	22,847	7.9
407	Cryorthents and Urban land, 5 to 20 percent slopes-----	14,859	5.2
408	Deception-Cryorthents complex, 45 to 90 percent slopes-----	2,389	0.8
409	Deception-Disappear complex, undulating and hilly-----	3,216	1.1
410	Deception-Estelle-Kichatna complex, 0 to 7 percent slopes-----	6,599	2.3
411	Deception-Estelle-Kichatna complex, 12 to 20 percent slopes-----	4,889	1.7
412	Deception-Estelle-Kichatna complex, 20 to 45 percent slopes-----	7,105	2.5
413	Deception-Estelle-Kichatna complex, 45 to 85 percent slopes-----	7,521	2.6
414	Deception-Estelle-Kichatna complex, undulating and hilly-----	14,091	4.9
415	Deception-Estelle-Kichatna complex, undulating and steep-----	7,242	2.5
416	Disappear-Pioneer Peak complex, 0 to 7 percent slopes-----	890	0.3
417	Doroshin peat, 0 to 7 percent slopes-----	4,916	1.7
418	Dumps, landfill-----	424	0.1
419	Eklutna very cobbly sand, 0 to 3 percent slopes-----	2,238	0.8
420	Haplocryods, 20 to 50 percent slopes-----	182	*
421	Histic Cryaquepts, 0 to 15 percent slopes-----	782	0.3
422	Histic Cryaquepts-Hurdygurdy association, 3 to 25 percent slopes-----	3,328	1.2
423	Hurdygurdy-Siwash-Rock outcrop association, 10 to 70 percent slopes-----	11,422	4.0
424	Icknuun peat, 0 to 3 percent slopes-----	3,120	1.1
425	Jacobsen-Disappear-Doroshin complex, 0 to 3 percent slopes-----	2,229	0.8
426	Jacobsen-Disappear-Doroshin complex, 3 to 7 percent slopes-----	1,254	0.4
427	Jacobsen-Disappear-Doroshin complex, 7 to 12 percent slopes-----	1,227	0.4
428	Kashwitna-Kichatna complex, 0 to 3 percent slopes-----	8,794	3.1
429	Kashwitna-Kichatna complex, 12 to 20 percent slopes-----	1,832	0.6
430	Kashwitna-Kichatna complex, 30 to 85 percent slopes-----	5,472	1.9
431	Kashwitna-Kichatna complex, undulating-----	4,635	1.6
432	Kashwitna-Kichatna complex, undulating and hilly-----	4,238	1.5
433	Kashwitna-Kichatna complex, undulating and steep-----	6,323	2.2
434	Kichatna-Pioneer Peak-Jacobsen complex, 0 to 15 percent slopes-----	2,063	0.7
435	Matsu silt loam, 0 to 3 percent slopes-----	208	*
436	Matsu silt loam, 3 to 7 percent slopes-----	222	*
437	Moose River-Niklason complex, frequently flooded, 0 to 3 percent slopes-----	581	0.2
438	Moose River-Niklason complex, occasionally flooded, 0 to 3 percent slopes-----	5,830	2.0
439	Nakochna-Rock outcrop association, 20 to 85 percent slopes-----	26,453	9.2
440	Pioneer Peak silt loam, 0 to 3 percent slopes-----	1,098	0.4
441	Pioneer Peak silt loam, 3 to 7 percent slopes-----	1,614	0.6
442	Pioneer Peak-Jacobsen-Doroshin complex, 12 to 20 percent slopes-----	388	0.1
443	Pits, gravel-----	1,633	0.6
444	Riverwash and Niklavar soils, 0 to 2 percent slopes-----	286	*
445	Rock outcrop-----	231	*
446	Salamatof peat, 0 to 3 percent slopes-----	1,448	0.5
447	Smithfha loamy very fine sand, 0 to 3 percent slopes-----	505	0.2
448	Smithfha loamy very fine sand, 3 to 7 percent slopes-----	867	0.3
449	Smithfha loamy very fine sand, 30 to 45 percent slopes-----	486	0.2
450	Smithfha loamy very fine sand, undulating and steep-----	1,367	0.5
451	Smithfha-Anchorpark complex, undulating and hilly-----	1,123	0.4
452	Susitna silt loam, 0 to 2 percent slopes-----	607	0.2
453	Susivar and Niklavar fine sandy loams-----	2,535	0.9
454	Susivar-Moose River complex, 0 to 2 percent slopes-----	348	0.1
455	Talkeetna-Chugach-Deneka complex, 12 to 20 percent slopes-----	1,246	0.4
456	Talkeetna-Chugach-Deneka complex, 20 to 45 percent slopes-----	7,209	2.5
457	Talkeetna-Chugach-Deneka complex, 45 to 85 percent slopes-----	6,735	2.3
458	Talkeetna-Chugach-Deneka complex, undulating and hilly-----	978	0.3
459	Talkeetna-Chugach-Histic Cryaquepts association, 10 to 70 percent slopes-----	9,921	3.4
460	Talkeetna-Chugach-Histic Cryaquepts association, cool, 10 to 70 percent slopes-----	15,822	5.5
461	Talkeetna-Deneka-Rock outcrop complex, 30 to 85 percent slopes-----	2,809	1.0
462	Typic Cryaquent and Typic Cryaquept soils, 0 to 2 percent slopes-----	8,286	2.9
463	Water, fresh-----	9,428	3.3
464	Water, saline-----	1	*
465	Whitsol silt loam, 0 to 3 percent slopes-----	317	0.1
466	Whitsol silt loam, 3 to 7 percent slopes-----	1,088	0.4
467	Whitsol silt loam, 7 to 12 percent slopes-----	530	0.2
468	Whitsol silt loam, 12 to 20 percent slopes-----	320	0.1
469	Whitsol silt loam, 20 to 45 percent slopes-----	230	*
	Total-----	288,200	100.0

\* Less than 0.1 percent.



Table 5.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
407: Cryorthents, skeletal	0-60	Very cobbly loam, very gravelly sandy loam, very gravelly sand, very gravelly loamy sand	GM, SM	A-1, A-2	0-15	NP-5
Urban land-----	---	---	---	---	---	---
408: Deception-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-3	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	3-6	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	6-14	Very gravelly sandy loam, gravelly sandy loam	GM, SM	A-1, A-2	0-15	NP-5
	14-60	Very gravelly sandy loam	GM	A-1	0-15	NP-5
Cryorthents, skeletal	0-1	Slightly decomposed plant material	PT	A-8	---	---
	1-60	Very cobbly loam, very gravelly sandy loam, very gravelly sand, very gravelly loamy sand	GM, SM	A-1, A-2	0-15	NP-5
409: Deception-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-3	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	3-6	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	6-14	Very gravelly sandy loam, gravelly sandy loam	GM, SM	A-1, A-2	0-15	NP-5
	14-60	Very gravelly sandy loam	GM	A-1	0-15	NP-5
Disappear-----	0-3	Mucky peat	PT	A-8	---	---
	3-8	Muck	PT	A-8	---	---
	8-14	Gravelly sandy loam, silt loam, loam	SM, ML	A-2, A-4	35-50	NP-10
	14-51	Silt loam, loam, sandy loam	ML, SM	A-4	25-35	NP-10
	51-55	Loamy fine sand, sandy loam	SM, SC-SM	A-4, A-2	0-15	NP-5
	55-63	Stratified extremely gravelly sandy loam to very gravelly coarse sand to loamy fine sand	GM, SM	A-1, A-2	0-10	NP-5
410: Deception-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-3	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	3-6	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	6-14	Very gravelly sandy loam, gravelly sandy loam	GM, SM	A-1, A-2	0-15	NP-5
	14-60	Very gravelly sandy loam	GM	A-1	0-15	NP-5
Estelle-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-18	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	18-28	Gravelly sandy loam, very gravelly sandy loam	GM, SM	A-1, A-2	0-15	NP-5
	28-60	Very gravelly sandy loam, extremely gravelly sandy loam	GW-GM, GM	A-1	0-15	NP-5
Kichatna-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-11	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP
411: Deception-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-3	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	3-6	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	6-14	Very gravelly sandy loam, gravelly sandy loam	GM, SM	A-1, A-2	0-15	NP-5
	14-60	Very gravelly sandy loam	GM	A-1	0-15	NP-5

Table 5.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plasticity index
			Unified	AASHTO		
	In.				Pct.	
411:						
Estelle-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-18	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	18-28	Gravelly sandy loam, very gravelly sandy loam	GM, SM	A-1, A-2	0-15	NP-5
	28-60	Very gravelly sandy loam, extremely gravelly sandy loam	GW-GM, GM	A-1	0-15	NP-5
Kichatna-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-11	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP
412:						
Deception-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-3	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	3-6	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	6-14	Very gravelly sandy loam, gravelly sandy loam	GM, SM	A-1, A-2	0-15	NP-5
	14-60	Very gravelly sandy loam	GM	A-1	0-15	NP-5
Estelle-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-18	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	18-28	Gravelly sandy loam, very gravelly sandy loam	GM, SM	A-1, A-2	0-15	NP-5
	28-60	Very gravelly sandy loam, extremely gravelly sandy loam	GW-GM, GM	A-1	0-15	NP-5
Kichatna-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-11	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP
413:						
Deception-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-3	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	3-6	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	6-14	Very gravelly sandy loam, gravelly sandy loam	GM, SM	A-1, A-2	0-15	NP-5
	14-60	Very gravelly sandy loam	GM	A-1	0-15	NP-5
Estelle-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-18	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	18-28	Gravelly sandy loam, very gravelly sandy loam	GM, SM	A-1, A-2	0-15	NP-5
	28-60	Very gravelly sandy loam, extremely gravelly sandy loam	GW-GM, GM	A-1	0-15	NP-5
Kichatna-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-11	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP

Table 5.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
414: Deception-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-3	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	3-6	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	6-14	Very gravelly sandy loam, gravelly sandy loam	GM, SM	A-1, A-2	0-15	NP-5
	14-60	Very gravelly sandy loam	GM	A-1	0-15	NP-5
Estelle-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-18	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	18-28	Gravelly sandy loam, very gravelly sandy loam	GM, SM	A-1, A-2	0-15	NP-5
	28-60	Very gravelly sandy loam, extremely gravelly sandy loam	GW-GM, GM	A-1	0-15	NP-5
Kichatna-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-11	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP
415: Deception-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-3	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	3-6	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	6-14	Very gravelly sandy loam, gravelly sandy loam	GM, SM	A-1, A-2	0-15	NP-5
	14-60	Very gravelly sandy loam	GM	A-1	0-15	NP-5
Estelle-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-18	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	18-28	Gravelly sandy loam, very gravelly sandy loam	GM, SM	A-1, A-2	0-15	NP-5
	28-60	Very gravelly sandy loam, extremely gravelly sandy loam	GW-GM, GM	A-1	0-15	NP-5
Kichatna-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-11	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP
416: Disappear-----	0-3	Mucky peat	PT	A-8	---	---
	3-8	Muck	PT	A-8	---	---
	8-14	Gravelly sandy loam, silt loam, loam	SM, ML	A-2, A-4	35-50	NP-10
	14-51	Silt loam, loam, sandy loam	ML, SM	A-4	25-35	NP-10
	51-55	Loamy fine sand, sandy loam	SM, SC-SM	A-4, A-2	0-15	NP-5
	55-63	Stratified extremely gravelly sandy loam to very gravelly coarse sand to loamy fine sand	GM, SM	A-1, A-2	0-10	NP-5
Pioneer Peak-----	0-3	Highly decomposed plant material	ML	A-8	---	---
	3-5	Silt loam, loam	ML	A-4	25-35	NP-10
	5-10	Silt loam, loam, fine sandy loam	ML, SM	A-4	35-50	NP-5
	10-25	Silt loam, loam, fine sandy loam	ML, SM	A-4	25-35	NP-10
	25-37	Gravelly loam, gravelly silt loam, gravelly fine sandy loam	SM, GM	A-2, A-4	5-20	NP-10
	37-60	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1, A-2	0-15	NP-5

Table 5.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit Pct.	Plas- ticity index
			Unified	AASHTO		
	In.					
417: Doroshin-----	0-43	Mucky peat	PT	A-8	---	---
	43-60	Gravelly loamy sand, loam	SM, ML	A-4, A-2	0-0	NP-5
418: Dumps, landfill-----	---	---	---	---	---	---
419: Eklutna-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-60	Very gravelly sand	GW, GW-GM	A-1	0-0	NP
420: Haplocryods-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-5	Silt loam	ML	A-4	35-45	NP-5
	5-8	Silt loam	ML	A-4	35-45	NP-5
	8-24	Silt loam, stony silt loam	ML	A-4	35-45	NP-5
	24+	Weathered bedrock			---	---
421: Histic Cryaquepts----	0-9	Mucky peat	PT	A-8	---	---
	9-20	Silt loam	ML	A-4	35-50	NP-10
	20-35	Silt loam, gravelly silt loam	ML, SM	A-4	35-50	NP-10
	35-60	Very gravelly sandy loam, gravelly silt loam, gravelly sand, very gravelly loamy sand	SM, GM	A-1, A-2	0-20	NP-5
422: Histic Cryaquepts----	0-9	Mucky peat	PT	A-8	---	---
	9-20	Silt loam	ML	A-4	35-50	NP-10
	20-35	Silt loam, gravelly silt loam	ML, SM	A-4	35-50	NP-10
	35-60	Very gravelly sandy loam, gravelly silt loam, gravelly sand, very gravelly loamy sand	SM, GM	A-1, A-2	0-20	NP-5
Hurdygurdy-----	0-5	Moderately decomposed plant material	PT	A-8	---	---
	5-8	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	8-18	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	18-60	Very gravelly sandy loam, very gravelly loam, very cobbly loam	GM	A-1, A-2	25-35	NP-5
423: Hurdygurdy-----	0-5	Moderately decomposed plant material	PT	A-8	---	---
	5-8	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	8-18	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	18-60	Very gravelly sandy loam, very gravelly loam, very cobbly loam	GM	A-1, A-2	25-35	NP-5
Siwash-----	0-4	Slightly decomposed plant material			---	---
	4-5	Very fine sandy loam, silt loam	MH, ML	A-5	40-60	NP-5
	5-14	Silt loam, fine sandy loam, sandy loam	MH, ML	A-5	40-60	NP-5
	14-21	Very cobbly sandy loam, very cobbly loam, very gravelly loam	GM	A-1, A-2	0-15	NP-5
	21+	Bedrock			---	---
Rock outcrop-----	---	---	---	---	---	---
424: Icknuun, ponded-----	0-10	Mucky peat	PT	A-8	---	---
	10-14	Gravelly silt loam, silt loam	ML, SM	A-4	25-35	NP-5
	14-60	Mucky peat	PT	A-8	---	---
425: Jacobsen-----	0-8	Muck	PT	A-8	---	---
	8-11	Mucky silt loam, gravelly silt loam, very cobbly loam	OL, ML, GM	A-4	25-35	NP-10
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5

Table 5.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
425: Disappear-----	0-3	Mucky peat	PT	A-8	---	---
	3-8	Muck	PT	A-8	---	---
	8-14	Gravelly sandy loam, silt loam, loam	ML, SM	A-2, A-4	35-50	NP-10
	14-51	Silt loam, loam, sandy loam	ML, SM	A-4	25-35	NP-10
	51-55	Loamy fine sand, sandy loam	SM, SC-SM	A-4, A-2	0-15	NP-5
	55-63	Stratified extremely gravelly sandy loam to very gravelly coarse sand to loamy fine sand	GM, SM	A-1, A-2	0-10	NP-5
Doroshin, ponded----	0-43	Mucky peat	PT	A-8	---	---
	43-60	Gravelly loamy sand, loam	ML, SM	A-4, A-2	0-0	NP-5
426: Jacobsen-----	0-8	Muck	PT	A-8	---	---
	8-11	Mucky silt loam, gravelly silt loam, very cobbly loam	OL, ML, GM	A-4	25-35	NP-10
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
Disappear-----	0-3	Mucky peat	PT	A-8	---	---
	3-8	Muck	PT	A-8	---	---
	8-14	Gravelly sandy loam, silt loam, loam	ML, SM	A-2, A-4	35-50	NP-10
	14-51	Silt loam, loam, sandy loam	ML, SM	A-4	25-35	NP-10
	51-55	Loamy fine sand, sandy loam	SM, SC-SM	A-4, A-2	0-15	NP-5
	55-63	Stratified extremely gravelly sandy loam to very gravelly coarse sand to loamy fine sand	GM, SM	A-1, A-2	0-10	NP-5
Doroshin-----	0-43	Mucky peat	PT	A-8	---	---
	43-60	Gravelly loamy sand, loam	ML, SM	A-4, A-2	0-0	NP-5
427: Jacobsen-----	0-8	Muck	PT	A-8	---	---
	8-11	Mucky silt loam, gravelly silt loam, very cobbly loam	OL, ML, GM	A-4	25-35	NP-10
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
Disappear-----	0-3	Mucky peat	PT	A-8	---	---
	3-8	Muck	PT	A-8	---	---
	8-14	Gravelly sandy loam, silt loam, loam	ML, SM	A-2, A-4	35-50	NP-10
	14-51	Silt loam, loam, sandy loam	ML, SM	A-4	25-35	NP-10
	51-55	Loamy fine sand, sandy loam	SM, SC-SM	A-4, A-2	0-15	NP-5
	55-63	Stratified extremely gravelly sandy loam to very gravelly coarse sand to loamy fine sand	GM, SM	A-1, A-2	0-10	NP-5
Doroshin-----	0-43	Mucky peat	PT	A-8	---	---
	43-60	Gravelly loamy sand, loam	ML, SM	A-4, A-2	0-0	NP-5
428: Kashwitna-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-5	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	5-16	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	16-18	Gravelly sandy loam, very gravelly sandy loam	SM, GM	A-1, A-2	0-15	NP-5
	18-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP

Table 5.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit  Pct.	Plas- ticity index
			Unified	AASHTO		
	In.					
428: Kichatna-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-11	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP
429: Kashwitna-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-5	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	5-16	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	16-18	Gravelly sandy loam, very gravelly sandy loam	SM, GM	A-1, A-2	0-15	NP-5
	18-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP
Kichatna-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-11	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP
430: Kashwitna-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-5	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	5-16	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	16-18	Gravelly sandy loam, very gravelly sandy loam	SM, GM	A-1, A-2	0-15	NP-5
	18-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP
Kichatna-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-11	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP
431: Kashwitna-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-5	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	5-16	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	16-18	Gravelly sandy loam, very gravelly sandy loam	SM, GM	A-1, A-2	0-15	NP-5
	18-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP
Kichatna-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-11	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP

Table 5.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
432: Kashwitna-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-5	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	5-16	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	16-18	Gravelly sandy loam, very gravelly sandy loam	SM, GM	A-1, A-2	0-15	NP-5
	18-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP
Kichatna-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-11	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP
433: Kashwitna-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-5	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	5-16	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	16-18	Gravelly sandy loam, very gravelly sandy loam	SM, GM	A-1, A-2	0-15	NP-5
	18-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP
Kichatna-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-11	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP
434: Kichatna-----	0-2	Slightly decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-11	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	GM, GW	A-1	0-0	NP
Pioneer Peak-----	0-3	Highly decomposed plant material	ML	A-8	---	---
	3-5	Silt loam, loam	ML	A-4	25-35	NP-10
	5-10	Silt loam, loam, fine sandy loam	ML, SM	A-4	35-50	NP-5
	10-25	Silt loam, loam, fine sandy loam	ML, SM	A-4	25-35	NP-10
	25-37	Gravelly loam, gravelly silt loam, gravelly fine sandy loam	SM, GM	A-2, A-4	5-20	NP-10
	37-60	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1, A-2	0-15	NP-5
Jacobsen-----	0-8	Muck	PT	A-8	---	---
	8-11	Mucky silt loam, gravelly silt loam, very cobbly loam	OL, ML, GM	A-4	25-35	NP-10
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5

Table 5.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit  Pct.	Plas- ticity index
			Unified	AASHTO		
	In.					
435: Matsu-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-6	Silt loam, loamy very fine sand, sandy loam	ML, SM	A-4, A-2	25-35	NP-10
	6-11	Silt loam, loamy very fine sand, sandy loam, fine sandy loam	SM, ML	A-2, A-4	35-50	NP-5
	11-15	Silt loam, loamy very fine sand	SM, ML	A-2, A-4	25-35	NP-10
	15-31	Silt loam, loamy very fine sand, sandy loam, very fine sandy loam	SM, ML	A-4, A-2	25-35	NP-10
	31-60	Silt loam, loamy very fine sand, sandy loam, very fine sandy loam	ML, SM	A-4, A-2	25-35	NP-10
436: Matsu-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-6	Silt loam, loamy very fine sand, sandy loam	ML, SM	A-2, A-4	25-35	NP-10
	6-11	Silt loam, loamy very fine sand, sandy loam, fine sandy loam	ML, SM	A-2, A-4	35-50	NP-5
	11-15	Silt loam, loamy very fine sand	SM, ML	A-2, A-4	25-35	NP-10
	15-31	Silt loam, loamy very fine sand, sandy loam, very fine sandy loam	SM, ML	A-2, A-4	25-35	NP-10
	31-60	Silt loam, loamy very fine sand, sandy loam, very fine sandy loam	ML, SM	A-2, A-4	25-35	NP-10
437: Moose River-----	0-5	Slightly decomposed plant material	PT	A-8	---	---
	5-10	Silt loam, very fine sandy loam, loamy very fine sand	SM, ML	A-4	25-35	NP-10
	10-50	Stratified fine sand to silt loam	SM, ML	A-2, A-4	10-30	NP-10
	50-60	Gravelly sandy loam, gravelly sand	SM	A-1, A-2	0-15	NP-5
Niklason-----	0-1	Moderately decomposed plant material	PT	A-8	---	---
	1-4	Mucky silt loam, silt loam, very fine sandy loam	OL, SM, ML	A-4	25-35	NP-5
	4-28	Stratified loamy sand to silt loam	ML, SM	A-4	25-35	NP-5
	28-60	Extremely gravelly coarse sand, very gravelly loamy coarse sand, very gravelly loamy sand	GW, GM	A-1	0-15	NP
438: Moose River-----	0-5	Slightly decomposed plant material	PT	A-8	---	---
	5-10	Silt loam, very fine sandy loam, loamy very fine sand	SM, ML	A-4	25-35	NP-10
	10-50	Stratified fine sand to silt loam	SM, ML	A-2, A-4	10-30	NP-10
	50-60	Gravelly sandy loam, gravelly sand	SM	A-1, A-2	0-15	NP-5
Niklason-----	0-1	Moderately decomposed plant material	PT	A-8	---	---
	1-4	Mucky silt loam, silt loam, very fine sandy loam	OL, SM, ML	A-4	25-35	NP-5
	4-28	Stratified loamy sand to silt loam	ML, SM	A-4	25-35	NP-5
	28-60	Extremely gravelly coarse sand, very gravelly loamy coarse sand, very gravelly loamy sand	GW, GM	A-1	0-15	NP
439: Nakochna-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-5	Silt loam, gravelly silt loam	ML, MH	A-5	40-60	NP-5
	5-14	Silt loam, gravelly silt loam	MH, ML	A-5	40-60	NP-5
	14+	Bedrock			---	---
Rock outcrop-----	---	---	---	---	---	---
440: Pioneer Peak-----	0-3	Highly decomposed plant material	ML	A-8	---	---
	3-5	Silt loam, loam	ML	A-4	25-35	NP-10
	5-10	Silt loam, loam, fine sandy loam	ML, SM	A-4	35-50	NP-5
	10-25	Silt loam, loam, fine sandy loam	ML, SM	A-4	25-35	NP-10
	25-37	Gravelly loam, gravelly silt loam, gravelly fine sandy loam	SM, GM	A-2, A-4	5-20	NP-10
	37-60	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1, A-2	0-15	NP-5

Table 5.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
441: Pioneer Peak-----	0-3	Highly decomposed plant material	ML	A-8	---	---
	3-5	Silt loam, loam	ML	A-4	25-35	NP-10
	5-10	Silt loam, loam, fine sandy loam	ML, SM	A-4	35-50	NP-5
	10-25	Silt loam, loam, fine sandy loam	ML, SM	A-4	25-35	NP-10
	25-37	Gravelly loam, gravelly silt loam, gravelly fine sandy loam	SM, GM	A-2, A-4	5-20	NP-10
	37-60	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1, A-2	0-15	NP-5
442: Pioneer Peak-----	0-3	Highly decomposed plant material	ML	A-8	---	---
	3-5	Silt loam, loam	ML	A-4	25-35	NP-10
	5-10	Silt loam, loam, fine sandy loam	ML, SM	A-4	35-50	NP-5
	10-25	Silt loam, loam, fine sandy loam	ML, SM	A-4	25-35	NP-10
	25-37	Gravelly loam, gravelly silt loam, gravelly fine sandy loam	SM, GM	A-2, A-4	5-20	NP-10
	37-60	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1, A-2	0-15	NP-5
Jacobsen-----	0-8	Muck	PT	A-8	---	---
	8-11	Mucky silt loam, gravelly silt loam, very cobbly loam	OL, ML, GM	A-4	25-35	NP-10
	11-14	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
	14-60	Very gravelly sandy loam, very gravelly loamy sand	GM	A-1	0-15	NP-5
Doroshin-----	0-43	Mucky peat	PT	A-8	---	---
	43-60	Gravelly loamy sand, loam	ML, SM	A-4, A-2	0-0	NP-5
443: Pits, gravel-----	---	---	---	---	---	---
444: Riverwash-----	---	---	---	---	---	---
Niklavar, frequently flooded-----	0-1	Loamy fine sand	SM	A-2, A-4	0-10	NP
	1-30	Stratified sand to silt	SM	A-2, A-4	0-10	NP
	30-60	Very gravelly coarse sand, extremely gravelly coarse sand, very cobbly sand	GP, SP	A-1	0-0	NP
445: Rock outcrop-----	---	---	---	---	---	---
446: Salamatof-----	0-60	Peat	PT	A-8	---	---
447: Smithfha-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-4	Loamy very fine sand, very fine sandy loam, silt loam	SM, ML	A-4	0-0	NP
	4-18	Loamy very fine sand, very fine sandy loam, silt loam	ML, SM	A-4	0-0	NP
	18-19	Loamy very fine sand, sandy loam	ML, SM	A-4	0-0	NP
	19-29	Loamy very fine sand, sandy loam	SM, ML	A-4	0-0	NP
	29-60	Loamy very fine sand, fine sand, sand	ML, SM	A-4, A-2	0-0	NP
448: Smithfha-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-4	Loamy very fine sand, very fine sandy loam, silt loam	SM, ML	A-4	0-0	NP
	4-18	Loamy very fine sand, very fine sandy loam, silt loam	ML, SM	A-4	0-0	NP
	18-19	Loamy very fine sand, sandy loam	ML, SM	A-4	0-0	NP
	19-29	Loamy very fine sand, sandy loam	SM, ML	A-4	0-0	NP
	29-60	Loamy very fine sand, fine sand, sand	ML, SM	A-4, A-2	0-0	NP

Table 5.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit Pct.	Plas- ticity index
			Unified	AASHTO		
449:	In.					
Smithfha-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-4	Loamy very fine sand, very fine sandy loam, silt loam	SM, ML	A-4	0-0	NP
	4-18	Loamy very fine sand, very fine sandy loam, silt loam	ML, SM	A-4	0-0	NP
	18-19	Loamy very fine sand, sandy loam	ML, SM	A-4	0-0	NP
	19-29	Loamy very fine sand, sandy loam	SM, ML	A-4	0-0	NP
	29-60	Loamy very fine sand, fine sand, sand	ML, SM	A-4, A-2	0-0	NP
450:						
Smithfha-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-4	Loamy very fine sand, very fine sandy loam, silt loam	SM, ML	A-4	0-0	NP
	4-18	Loamy very fine sand, very fine sandy loam, silt loam	ML, SM	A-4	0-0	NP
	18-19	Loamy very fine sand, sandy loam	ML, SM	A-4	0-0	NP
	19-29	Loamy very fine sand, sandy loam	SM, ML	A-4	0-0	NP
	29-60	Loamy very fine sand, fine sand, sand	ML, SM	A-4, A-2	0-0	NP
451:						
Smithfha-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-4	Loamy very fine sand, very fine sandy loam, silt loam	SM, ML	A-4	0-0	NP
	4-18	Loamy very fine sand, very fine sandy loam, silt loam	ML, SM	A-4	0-0	NP
	18-19	Loamy very fine sand, sandy loam	ML, SM	A-4	0-0	NP
	19-29	Loamy very fine sand, sandy loam	SM, ML	A-4	0-0	NP
	29-60	Loamy very fine sand, fine sand, sand	ML, SM	A-4, A-2	0-0	NP
Anchorpark-----	0-1	Moderately decomposed plant material	PT	A-8	0-0	NP
	1-4	Loamy very fine sand, very fine sand, fine sand	SM	A-2, A-4	0-0	NP
	4-9	Loamy very fine sand, fine sand, loamy sand	SM	A-2, A-4	0-0	NP
	9-14	Fine sand, loamy sand, loamy very fine sand	SM	A-4, A-2	0-0	NP
	14-60	Fine sand, sand, very fine sand	SM	A-2, A-3	0-0	NP
452:						
Susitna-----	0-3	Silt loam	ML	A-4	25-35	NP-10
	3-45	Stratified loamy fine sand to silt loam	SM	A-2, A-4	0-0	NP
	45-60	Very gravelly sand	GP, SP	A-1	0-5	NP
453:						
Susivar-----	0-3	Fine sandy loam	ML	A-4	25-35	NP-10
	3-60	Stratified sand to silt	SM	A-2, A-4	0-10	NP
Niklavar-----	0-1	Loamy fine sand	SM	A-2, A-4	0-10	NP
	1-30	Stratified sand to silt	SM	A-2, A-4	0-10	NP
	30-60	Very gravelly coarse sand, extremely gravelly coarse sand, very cobbly sand	GP, SP	A-1	0-0	NP
454:						
Susivar-----	0-3	Fine sandy loam	ML	A-4	25-35	NP-10
	3-60	Stratified sand to silt	SM	A-2, A-4	0-10	NP
Moose River-----	0-5	Slightly decomposed plant material	PT	A-8	---	---
	5-10	Silt loam, very fine sandy loam, loamy very fine sand	SM, ML	A-4	25-35	NP-10
	10-50	Stratified fine sand to silt loam	SM, ML	A-2, A-4	10-30	NP-10
	50-60	Gravelly sandy loam, gravelly sand	SM	A-1, A-2	0-15	NP-5
455:						
Talkeetna-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	6-7	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	7-18	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	18-60	Very cobbly loam, very gravelly loam, very gravelly sandy loam	GM	A-1, A-2	25-35	NP-5

Table 5.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit	Plas- ticity index
			Unified	AASHTO		
	In.				Pct.	
455: Chugach-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-8	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	8-10	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	10-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand, extremely gravelly loamy sand	GW, GM	A-1	0-0	NP
Deneka-----	0-2	Moderately decomposed plant material			---	---
	2-4	Very fine sandy loam, silt loam	MH, ML	A-5	40-60	NP-5
	4-17	Silt loam, fine sandy loam, sandy loam	MH, ML	A-5	40-60	NP-5
	17-22	Very cobbly sandy loam, very cobbly loam, very gravelly loam	GM	A-1, A-2	0-15	NP-5
	22+	Bedrock			---	---
456: Talkeetna-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	6-7	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	7-18	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	18-60	Very cobbly loam, very gravelly loam, very gravelly sandy loam	GM	A-1, A-2	25-35	NP-5
Chugach-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-8	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	8-10	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	10-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand, extremely gravelly loamy sand	GW, GM	A-1	0-0	NP
Deneka-----	0-2	Moderately decomposed plant material			---	---
	2-4	Very fine sandy loam, silt loam	MH, ML	A-5	40-60	NP-5
	4-17	Silt loam, fine sandy loam, sandy loam	MH, ML	A-5	40-60	NP-5
	17-22	Very cobbly sandy loam, very cobbly loam, very gravelly loam	GM	A-1, A-2	0-15	NP-5
	22+	Bedrock			---	---
457: Talkeetna-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	6-7	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	7-18	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	18-60	Very cobbly loam, very gravelly loam, very gravelly sandy loam	GM	A-1, A-2	25-35	NP-5
Chugach-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-8	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	8-10	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	10-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand, extremely gravelly loamy sand	GW, GM	A-1	0-0	NP
Deneka-----	0-2	Moderately decomposed plant material			---	---
	2-4	Very fine sandy loam, silt loam	MH, ML	A-5	40-60	NP-5
	4-17	Silt loam, fine sandy loam, sandy loam	MH, ML	A-5	40-60	NP-5
	17-22	Very cobbly sandy loam, very cobbly loam, very gravelly loam	GM	A-1, A-2	0-15	NP-5
	22+	Bedrock			---	---
458: Talkeetna-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	6-7	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	7-18	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	18-60	Very cobbly loam, very gravelly loam, very gravelly sandy loam	GM	A-1, A-2	25-35	NP-5

Table 5.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit  Pct.	Plas- ticity index
			Unified	AASHTO		
	In.					
458:						
Chugach-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-8	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	8-10	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	10-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand, extremely gravelly loamy sand	GW, GM	A-1	0-0	NP
Deneka-----	0-2	Moderately decomposed plant material			---	---
	2-4	Very fine sandy loam, silt loam	MH, ML	A-5	40-60	NP-5
	4-17	Silt loam, fine sandy loam, sandy loam	MH, ML	A-5	40-60	NP-5
	17-22	Very cobbly sandy loam, very cobbly loam, very gravelly loam	GM	A-1, A-2	0-15	NP-5
	22+	Bedrock			---	---
459:						
Talkeetna-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	6-7	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	7-18	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	18-60	Very cobbly loam, very gravelly loam, very gravelly sandy loam	GM	A-1, A-2	25-35	NP-5
Chugach-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-8	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	8-10	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	10-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand, extremely gravelly loamy sand	GW, GM	A-1	0-0	NP
Histic Cryaquepts----	0-9	Mucky peat	PT	A-8	---	---
	9-20	Silt loam	ML	A-4	35-50	NP-10
	20-35	Silt loam, gravelly silt loam	ML, SM	A-4	35-50	NP-10
	35-60	Very gravelly sandy loam, gravelly silt loam, gravelly sand, very gravelly loamy sand	SM, GM	A-1, A-2	0-20	NP-5
460:						
Talkeetna, cool-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	6-7	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	7-18	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	18-60	Very cobbly loam, very gravelly loam, very gravelly sandy loam	GM	A-1, A-2	25-35	NP-5
Chugach, cool-----	0-3	Moderately decomposed plant material	PT	A-8	---	---
	3-4	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	4-8	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	8-10	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	10-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand, extremely gravelly loamy sand	GW, GM	A-1	0-0	NP
Histic Cryaquepts----	0-9	Mucky peat	PT	A-8	---	---
	9-20	Silt loam	ML	A-4	35-50	NP-10
	20-35	Silt loam, gravelly silt loam	ML, SM	A-4	35-50	NP-10
	35-60	Very gravelly sandy loam, gravelly silt loam, gravelly sand, very gravelly loamy sand	SM, GM	A-1, A-2	0-20	NP-5
461:						
Talkeetna-----	0-3	Slightly decomposed plant material	PT	A-8	---	---
	3-6	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	6-7	Silt loam, very fine sandy loam	ML, MH	A-5	40-60	NP-5
	7-18	Silt loam, very fine sandy loam	MH, ML	A-5	40-60	NP-5
	18-60	Very cobbly loam, very gravelly loam, very gravelly sandy loam	GM	A-1, A-2	25-35	NP-5

Table 5.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Liquid limit  Pct.	Plas- ticity index
			Unified	AASHTO		
	In.					
461: Deneka-----	0-2	Moderately decomposed plant material			---	---
	2-4	Very fine sandy loam, silt loam	MH, ML	A-5	40-60	NP-5
	4-17	Silt loam, fine sandy loam, sandy loam	MH, ML	A-5	40-60	NP-5
	17-22	Very cobbly sandy loam, very cobbly loam, very gravelly loam	GM	A-1, A-2	0-15	NP-5
	22+	Bedrock			---	---
Rock outcrop-----	---	---	---	---	---	---
462: Typic Cryaquents, tidal flats-----	0-16	Silt loam	ML	A-4	25-35	NP-10
	16-21	Silt loam, sandy loam	ML	A-4	25-35	NP-10
	21-60	Silt loam	ML	A-4	25-35	NP-10
Typic Cryaquents, beach terrace-----	0-30	Silt loam	ML	A-4	25-35	NP-10
	30-38	Silty clay loam, silt loam	CL	A-6	25-35	10-15
	38-60	Silty clay loam, silt loam	CL	A-6	25-35	10-15
463: Water-----	---	---	---	---	---	---
464: Water, saline-----	---	---	---	---	---	---
465: Whitsol-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam, loam	ML, MH	A-5	40-60	NP-5
	4-7	Silt loam, very fine sandy loam, loam	MH, ML	A-5	40-60	NP-5
	7-17	Silt loam, very fine sandy loam, loam	MH, ML	A-5	40-60	NP-5
	17-35	Silt loam, very fine sandy loam, loam	ML, MH	A-5	40-60	NP-5
	35-60	Gravelly loam, very gravelly sandy loam, very gravelly loamy sand	GM, SM	A-2	20-25	NP-5
466: Whitsol-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam, loam	ML, MH	A-5	40-60	NP-5
	4-7	Silt loam, very fine sandy loam, loam	MH, ML	A-5	40-60	NP-5
	7-17	Silt loam, very fine sandy loam, loam	MH, ML	A-5	40-60	NP-5
	17-35	Silt loam, very fine sandy loam, loam	ML, MH	A-5	40-60	NP-5
	35-60	Gravelly loam, very gravelly sandy loam, very gravelly loamy sand	GM, SM	A-2	20-25	NP-5
467: Whitsol-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam, loam	ML, MH	A-5	40-60	NP-5
	4-7	Silt loam, very fine sandy loam, loam	MH, ML	A-5	40-60	NP-5
	7-17	Silt loam, very fine sandy loam, loam	MH, ML	A-5	40-60	NP-5
	17-35	Silt loam, very fine sandy loam, loam	ML, MH	A-5	40-60	NP-5
	35-60	Gravelly loam, very gravelly sandy loam, very gravelly loamy sand	GM, SM	A-2	20-25	NP-5
468: Whitsol-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam, loam	ML, MH	A-5	40-60	NP-5
	4-7	Silt loam, very fine sandy loam, loam	MH, ML	A-5	40-60	NP-5
	7-17	Silt loam, very fine sandy loam, loam	MH, ML	A-5	40-60	NP-5
	17-35	Silt loam, very fine sandy loam, loam	ML, MH	A-5	40-60	NP-5
	35-60	Gravelly loam, very gravelly sandy loam, very gravelly loamy sand	GM, SM	A-2	20-25	NP-5
469: Whitsol-----	0-2	Moderately decomposed plant material	PT	A-8	---	---
	2-4	Silt loam, very fine sandy loam, loam	ML, MH	A-5	40-60	NP-5
	4-7	Silt loam, very fine sandy loam, loam	MH, ML	A-5	40-60	NP-5
	7-17	Silt loam, very fine sandy loam, loam	MH, ML	A-5	40-60	NP-5
	17-35	Silt loam, very fine sandy loam, loam	ML, MH	A-5	40-60	NP-5
	35-60	Gravelly loam, very gravelly sandy loam, very gravelly loamy sand	GM, SM	A-2	20-25	NP-5

Table 6.--Engineering Particle Size Data  
(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
400: Anchorpark-----	In.										
	0-1	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	1-4	Loamy very fine sand, very fine sand, fine sand	0	0	90-100	90-100	65-95	30-60	65-90	10-30	0-10
	4-9	Loamy very fine sand, fine sand, loamy sand	0	0	90-100	90-100	65-95	30-60	65-90	10-30	0-10
	9-14	Fine sand, loamy sand, loamy very fine sand	0	0	90-100	90-100	65-95	20-50	67-100	10-30	0-5
	14-60	Fine sand, sand, very fine sand	0	0	90-100	90-100	50-90	5-40	92-100	0-10	0-3
401: Andic Humicryods----	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-5	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	5-20	Gravelly silt loam, silt loam	0	0-10	60-90	55-85	50-80	45-75	20-60	30-70	5-15
	20-60	Very cobbly loam, gravelly loam, very gravelly fine sandy loam, gravelly sandy loam	0-5	15-40	55-75	40-60	30-50	12-35	45-75	25-45	0-10
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---
402: Clam Gulch-----	0-4	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	4-9	Silt loam, very fine sandy loam, silty clay loam, loam	0	0-5	70-100	70-100	60-95	60-90	20-50	30-70	15-35
	9-14	Silty clay loam, silt loam, loam, very fine sandy loam	0	0-5	70-100	70-100	60-95	60-90	15-55	30-70	15-35
	14-46	Silty clay loam, silt loam, loam, very fine sandy loam	0	0-5	70-100	70-100	60-95	60-90	15-55	30-70	15-35
	46-60	Silty clay loam, silt loam, loam, very fine sandy loam	0	0-5	70-100	70-100	60-95	60-90	10-55	40-65	15-35
403: Clam Gulch-----	0-4	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	4-9	Silt loam, very fine sandy loam, silty clay loam, loam	0	0-5	70-100	70-100	60-95	60-90	20-50	30-70	15-35
	9-14	Silty clay loam, silt loam, loam, very fine sandy loam	0	0-5	70-100	70-100	60-95	60-90	15-55	30-70	15-35
	14-46	Silty clay loam, silt loam, loam, very fine sandy loam	0	0-5	70-100	70-100	60-95	60-90	15-55	30-70	15-35
	46-60	Silty clay loam, silt loam, loam, very fine sandy loam	0	0-5	70-100	70-100	60-95	60-90	10-55	40-65	15-35
Doroshin-----	0-43	Mucky peat	---	---	---	---	---	---	---	---	---
	43-60	Gravelly loamy sand, loam	0-5	0-15	65-95	60-90	35-85	25-70	40-80	20-50	0-10

Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
403: Jacobsen-----	In.										
	0-8	Muck	---	---	---	---	---	---	---	---	---
	8-11	Mucky silt loam, gravelly silt loam, very cobbly loam	0-5	0-45	50-90	45-85	40-80	35-75	25-65	30-70	0-10
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-20	35-55	30-50	20-40	10-20	70-90	10-20	0-10
	14-60	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-20	35-55	30-50	20-40	10-20	70-90	10-20	0-10
404: Cryosaprists, tidal flats-----	0-9	Peat, mucky peat	---	---	---	---	---	---	---	---	---
	9-60	Mucky peat, peat	---	---	---	---	---	---	---	---	---
405: Cryorthents, silty---	0-1	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	1-60	Silty clay loam, silt loam	0	0-100	100	100	90-100	70-90	10-20	50-80	10-30
406: Cryorthents, skeletal	0-60	Very cobbly loam, very gravelly sandy loam, very gravelly sand, very gravelly loamy sand	0-5	0-35	40-65	30-50	20-40	10-25	40-90	10-35	0-10
Urban land-----	---	---	---	---	---	---	---	---	---	---	---
407: Cryorthents, skeletal	0-60	Very cobbly loam, very gravelly sandy loam, very gravelly sand, very gravelly loamy sand	0-5	0-35	40-65	30-50	20-40	10-25	40-90	10-35	0-10
Urban land-----	---	---	---	---	---	---	---	---	---	---	---
408: Deception-----	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-3	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	3-6	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	6-14	Very gravelly sandy loam, gravelly sandy loam	0-5	0-40	40-70	35-65	20-40	10-25	55-75	25-45	0-10
	14-60	Very gravelly sandy loam	0-5	0-40	35-55	30-50	20-35	10-20	55-75	25-45	0-10
Cryorthents, skeletal	0-1	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	1-60	Very cobbly loam, very gravelly sandy loam, very gravelly sand, very gravelly loamy sand	0-5	0-35	40-65	30-50	20-40	10-25	40-90	10-35	0-10
409: Deception-----	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-3	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	3-6	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	6-14	Very gravelly sandy loam, gravelly sandy loam	0-5	0-40	40-70	35-65	20-40	10-25	55-75	25-45	0-10
	14-60	Very gravelly sandy loam	0-5	0-40	35-55	30-50	20-35	10-20	55-75	25-45	0-10

Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
409: Disappear-----	In.										
	0-3	Mucky peat	---	---	---	---	---	---	---	---	---
	3-8	Muck	---	---	---	---	---	---	---	---	---
	8-14	Gravelly sandy loam, silt loam, loam	0	0-5	70-95	65-90	45-85	30-80	45-65	25-65	5-15
	14-51	Silt loam, loam, sandy loam	0	0-5	85-95	80-90	45-85	35-80	30-70	30-50	5-15
	51-55	Loamy fine sand, sandy loam	0	0-5	85-100	80-100	50-80	25-45	65-85	10-30	0-10
	55-63	Stratified extremely gravelly sandy loam to very gravelly coarse sand to loamy fine sand	0	5-20	15-85	10-80	5-75	5-25	80-100	0-20	0-5
410: Deception-----	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-3	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	3-6	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	6-14	Very gravelly sandy loam, gravelly sandy loam	0-5	0-40	40-70	35-65	20-40	10-25	55-75	25-45	0-10
	14-60	Very gravelly sandy loam	0-5	0-40	35-55	30-50	20-35	10-20	55-75	25-45	0-10
Estelle-----	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-18	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	18-28	Gravelly sandy loam, very gravelly sandy loam	0-5	0-10	45-75	40-70	25-45	10-30	55-75	25-45	0-10
	28-60	Very gravelly sandy loam, extremely gravelly sandy loam	0-5	0-15	25-55	20-50	15-35	5-20	55-75	25-45	0-10
Kichatna-----	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-11	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-15	35-55	30-50	20-40	10-20	80-98	2-12	0-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	0-5	15-35	20-50	15-45	10-30	0-15	80-98	2-12	0-5
411: Deception-----	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-3	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	3-6	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	6-14	Very gravelly sandy loam, gravelly sandy loam	0-5	0-40	40-70	35-65	20-40	10-25	55-75	25-45	0-10
	14-60	Very gravelly sandy loam	0-5	0-40	35-55	30-50	20-35	10-20	55-75	25-45	0-10

Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
411: Estelle-----	In.										
	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-18	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	18-28	Gravelly sandy loam, very gravelly sandy loam	0-5	0-10	45-75	40-70	25-45	10-30	55-75	25-45	0-10
	28-60	Very gravelly sandy loam, extremely gravelly sandy loam	0-5	0-15	25-55	20-50	15-35	5-20	55-75	25-45	0-10
Kichatna-----	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-11	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-15	35-55	30-50	20-40	10-20	80-98	2-12	0-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	0-5	15-35	20-50	15-45	10-30	0-15	80-98	2-12	0-5
412: Deception-----	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-3	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	3-6	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	6-14	Very gravelly sandy loam, gravelly sandy loam	0-5	0-40	40-70	35-65	20-40	10-25	55-75	25-45	0-10
	14-60	Very gravelly sandy loam	0-5	0-40	35-55	30-50	20-35	10-20	55-75	25-45	0-10
Estelle-----	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-18	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	18-28	Gravelly sandy loam, very gravelly sandy loam	0-5	0-10	45-75	40-70	25-45	10-30	55-75	25-45	0-10
	28-60	Very gravelly sandy loam, extremely gravelly sandy loam	0-5	0-15	25-55	20-50	15-35	5-20	55-75	25-45	0-10
Kichatna-----	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-11	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-15	35-55	30-50	20-40	10-20	80-98	2-12	0-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	0-5	15-35	20-50	15-45	10-30	0-15	80-98	2-12	0-5

Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
413: Deception-----	In.										
	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-3	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	3-6	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	6-14	Very gravelly sandy loam, gravelly sandy loam	0-5	0-40	40-70	35-65	20-40	10-25	55-75	25-45	0-10
	14-60	Very gravelly sandy loam	0-5	0-40	35-55	30-50	20-35	10-20	55-75	25-45	0-10
Estelle-----	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-18	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	18-28	Gravelly sandy loam, very gravelly sandy loam	0-5	0-10	45-75	40-70	25-45	10-30	55-75	25-45	0-10
	28-60	Very gravelly sandy loam, extremely gravelly sandy loam	0-5	0-15	25-55	20-50	15-35	5-20	55-75	25-45	0-10
Kichatna-----	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-11	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-15	35-55	30-50	20-40	10-20	80-98	2-12	0-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	0-5	15-35	20-50	15-45	10-30	0-15	80-98	2-12	0-5
414: Deception-----	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-3	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	3-6	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	6-14	Very gravelly sandy loam, gravelly sandy loam	0-5	0-40	40-70	35-65	20-40	10-25	55-75	25-45	0-10
	14-60	Very gravelly sandy loam	0-5	0-40	35-55	30-50	20-35	10-20	55-75	25-45	0-10
Estelle-----	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-18	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	18-28	Gravelly sandy loam, very gravelly sandy loam	0-5	0-10	45-75	40-70	25-45	10-30	55-75	25-45	0-10
	28-60	Very gravelly sandy loam, extremely gravelly sandy loam	0-5	0-15	25-55	20-50	15-35	5-20	55-75	25-45	0-10

Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
414: Kichatna-----	In.										
	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-11	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-15	35-55	30-50	20-40	10-20	80-98	2-12	0-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	0-5	15-35	20-50	15-45	10-30	0-15	80-98	2-12	0-5
415: Deception-----	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-3	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	3-6	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	6-14	Very gravelly sandy loam, gravelly sandy loam	0-5	0-40	40-70	35-65	20-40	10-25	55-75	25-45	0-10
	14-60	Very gravelly sandy loam	0-5	0-40	35-55	30-50	20-35	10-20	55-75	25-45	0-10
Estelle-----	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-18	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	18-28	Gravelly sandy loam, very gravelly sandy loam	0-5	0-10	45-75	40-70	25-45	10-30	55-75	25-45	0-10
	28-60	Very gravelly sandy loam, extremely gravelly sandy loam	0-5	0-15	25-55	20-50	15-35	5-20	55-75	25-45	0-10
Kichatna-----	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-11	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-15	35-55	30-50	20-40	10-20	80-98	2-12	0-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	0-5	15-35	20-50	15-45	10-30	0-15	80-98	2-12	0-5
416: Disappear-----	0-3	Mucky peat	---	---	---	---	---	---	---	---	---
	3-8	Muck	---	---	---	---	---	---	---	---	---
	8-14	Gravelly sandy loam, silt loam, loam	0	0-5	70-95	65-90	45-85	30-80	45-65	25-65	5-15
	14-51	Silt loam, loam, sandy loam	0	0-5	85-95	80-90	45-85	35-80	30-70	30-50	5-15
	51-55	Loamy fine sand, sandy loam	0	0-5	85-100	80-100	50-80	25-45	65-85	10-30	0-10
	55-63	Stratified extremely gravelly sandy loam to very gravelly coarse sand to loamy fine sand	0	5-20	15-85	10-80	5-75	5-25	80-100	0-20	0-5

Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
In.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.		
416: Pioneer Peak-----	0-3	Highly decomposed plant material	---	---	---	---	---	---	---	---	
	3-5	Silt loam, loam	0	0	90-100	90-100	70-100	50-90	20-60	30-70	5-15
	5-10	Silt loam, loam, fine sandy loam	0	0-3	90-100	90-100	60-100	40-90	20-60	30-70	5-15
	10-25	Silt loam, loam, fine sandy loam	0	0-3	90-100	90-100	60-100	40-90	20-60	30-70	5-15
	25-37	Gravelly loam, gravelly silt loam, gravelly fine sandy loam	0	0-10	60-80	55-75	35-75	20-50	20-60	40-75	5-15
	37-60	Very gravelly sandy loam, very gravelly loamy sand	0	3-15	35-55	30-50	20-50	10-30	70-90	5-20	5-10
417: Doroshin-----	0-43	Mucky peat	---	---	---	---	---	---	---	---	---
	43-60	Gravelly loamy sand, loam	0-5	0-15	65-95	60-90	35-85	25-70	40-80	20-50	0-10
418: Dumps, landfill-----	---	---	---	---	---	---	---	---	---	---	---
419: Eklutna-----	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-60	Very gravelly sand	0-10	5-20	35-55	30-50	15-35	0-10	90-100	0-5	0-5
420: Haplocryods-----	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-5	Silt loam	0	0-5	90-100	85-100	80-100	70-90	20-60	30-70	5-15
	5-8	Silt loam	0	0-5	90-100	85-100	80-100	70-90	20-60	30-70	5-15
	8-24	Silt loam, stony silt loam	10-30	10-20	75-90	70-85	65-85	55-75	20-60	30-70	5-15
	24+	Weathered bedrock	---	---	---	---	---	---	---	---	---
421: Histic Cryaquepts----	0-9	Mucky peat	---	---	---	---	---	---	---	---	---
	9-20	Silt loam	0-5	0-10	90-100	90-100	80-100	60-90	20-50	40-70	5-15
	20-35	Silt loam, gravelly silt loam	0-5	0-10	70-100	60-100	50-90	40-80	20-60	40-70	5-15
	35-60	Very gravelly sandy loam, gravelly silt loam, gravelly sand, very gravelly loamy sand	0-5	0-10	50-80	45-75	20-70	10-40	30-90	5-70	0-10
422: Histic Cryaquepts----	0-9	Mucky peat	---	---	---	---	---	---	---	---	---
	9-20	Silt loam	0-5	0-10	90-100	90-100	80-100	60-90	20-50	40-70	5-15
	20-35	Silt loam, gravelly silt loam	0-5	0-10	70-100	60-100	50-90	40-80	20-60	40-70	5-15
	35-60	Very gravelly sandy loam, gravelly silt loam, gravelly sand, very gravelly loamy sand	0-5	0-10	50-80	45-75	20-70	10-40	30-90	5-70	0-10
Hurdygurdy-----	0-5	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	5-8	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	8-18	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	18-60	Very gravelly sandy loam, very gravelly loam, very cobbly loam	0-5	0-40	45-65	30-50	20-40	12-25	35-75	25-45	0-10

Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
423: Hurdygurdy-----	In.										
	0-5	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	5-8	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	8-18	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	18-60	Very gravelly sandy loam, very gravelly loam, very cobbly loam	0-5	0-40	45-65	30-50	20-40	12-25	35-75	25-45	0-10
Siwash-----	0-4	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	4-5	Very fine sandy loam, silt loam	0	0	95-100	95-100	90-100	70-80	20-60	30-70	5-15
	5-14	Silt loam, fine sandy loam, sandy loam	0	0-5	90-100	90-95	80-90	60-70	20-60	30-70	5-15
	14-21	Very cobbly sandy loam, very cobbly loam, very gravelly loam	0-5	15-25	45-60	35-55	25-40	15-30	40-80	20-50	5-10
	21+	Bedrock	---	---	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---
424: Icknuun, ponded-----	0-10	Mucky peat	---	---	---	---	---	---	---	---	---
	10-14	Gravelly silt loam, silt loam	0-5	0-20	80-95	70-90	65-90	45-70	25-65	30-70	0-10
	14-60	Mucky peat	---	---	---	---	---	---	---	---	---
425: Jacobsen-----	0-8	Muck	---	---	---	---	---	---	---	---	---
	8-11	Mucky silt loam, gravelly silt loam, very cobbly loam	0-5	0-45	50-90	45-85	40-80	35-75	25-65	30-70	0-10
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-20	35-55	30-50	20-40	10-20	70-90	10-20	0-10
	14-60	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-20	35-55	30-50	20-40	10-20	70-90	10-20	0-10
Disappear-----	0-3	Mucky peat	---	---	---	---	---	---	---	---	---
	3-8	Muck	---	---	---	---	---	---	---	---	---
	8-14	Gravelly sandy loam, silt loam, loam	0	0-5	70-95	65-90	45-85	30-80	45-65	25-65	5-20
	14-51	Silt loam, loam, sandy loam	0	0-5	85-95	80-90	45-85	35-80	30-70	30-50	5-20
	51-55	Loamy fine sand, sandy loam	0	0-5	85-100	80-100	50-80	25-45	65-85	10-30	0-10
	55-63	Stratified extremely gravelly sandy loam to very gravelly coarse sand to loamy fine sand	0	5-20	15-85	10-80	5-75	5-25	80-100	0-20	0-5
Doroshin, ponded-----	0-43	Mucky peat	---	---	---	---	---	---	---	---	---
	43-60	Gravelly loamy sand, loam	0-5	0-15	65-95	60-90	35-85	25-70	40-80	20-50	0-10
426: Jacobsen-----	0-8	Muck	---	---	---	---	---	---	---	---	---
	8-11	Mucky silt loam, gravelly silt loam, very cobbly loam	0-5	0-45	50-90	45-85	40-80	35-75	25-65	30-70	0-10
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-20	35-55	30-50	20-40	10-20	70-90	10-20	0-10
	14-60	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-20	35-55	30-50	20-40	10-20	70-90	10-20	0-10

Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
In.	Pct.	Pct.						Pct.	Pct.	Pct.	
426: Disappear-----	0-3	Mucky peat	---	---	---	---	---	---	---	---	---
	3-8	Muck	---	---	---	---	---	---	---	---	---
	8-14	Gravelly sandy loam, silt loam, loam	0	0-5	70-95	65-90	45-85	30-80	45-65	25-65	5-15
	14-51	Silt loam, loam, sandy loam	0	0-5	85-95	80-90	45-85	35-80	30-70	30-50	5-15
	51-55	Loamy fine sand, sandy loam	0	0-5	85-100	80-100	50-80	25-45	65-85	10-30	0-10
	55-63	Stratified extremely gravelly sandy loam to very gravelly coarse sand to loamy fine sand	0	5-20	15-85	10-80	5-75	5-25	80-100	0-20	0-5
Doroshin-----	0-43	Mucky peat	---	---	---	---	---	---	---	---	---
	43-60	Gravelly loamy sand, loam	0-5	0-15	65-95	60-90	35-85	25-70	40-80	20-50	0-10
427: Jacobsen-----	0-8	Muck	---	---	---	---	---	---	---	---	---
	8-11	Mucky silt loam, gravelly silt loam, very cobbly loam	0-5	0-45	50-90	45-85	40-80	35-75	25-65	30-70	0-10
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-20	35-55	30-50	20-40	10-20	70-90	10-20	0-10
	14-60	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-20	35-55	30-50	20-40	10-20	70-90	10-20	0-10
Disappear-----	0-3	Mucky peat	---	---	---	---	---	---	---	---	---
	3-8	Muck	---	---	---	---	---	---	---	---	---
	8-14	Gravelly sandy loam, silt loam, loam	0	0-5	70-95	65-90	45-85	30-80	45-65	25-65	5-15
	14-51	Silt loam, loam, sandy loam	0	0-5	85-95	80-90	45-85	35-80	30-70	30-50	5-15
	51-55	Loamy fine sand, sandy loam	0	0-5	85-100	80-100	50-80	25-45	65-85	10-30	0-10
	55-63	Stratified extremely gravelly sandy loam to very gravelly coarse sand to loamy fine sand	0	5-20	15-85	10-80	5-75	5-25	80-100	0-20	0-5
Doroshin-----	0-43	Mucky peat	---	---	---	---	---	---	---	---	---
	43-60	Gravelly loamy sand, loam	0-5	0-15	65-95	60-90	35-85	25-70	40-80	20-50	0-10
428: Kashwitna-----	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-5	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	5-16	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	16-18	Gravelly sandy loam, very gravelly sandy loam	0-5	0-20	40-80	35-65	20-50	10-30	80-98	2-12	0-5
	18-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand	0-10	15-35	20-45	15-40	10-30	0-15	80-98	2-12	0-5

Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
428: Kichatna-----	In.										
	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-11	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-15	35-55	30-50	20-40	10-20	80-98	2-12	0-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	0-5	15-35	20-50	15-45	10-30	0-15	80-98	2-12	0-5
429: Kashwitna-----	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-5	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	5-16	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	16-18	Gravelly sandy loam, very gravelly sandy loam	0-5	0-20	40-80	35-65	20-50	10-30	80-98	2-12	0-5
	18-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand	0-10	15-35	20-45	15-40	10-30	0-15	80-98	2-12	0-5
Kichatna-----	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-11	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-15	35-55	30-50	20-40	10-20	80-98	2-12	0-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	0-5	15-35	20-50	15-45	10-30	0-15	80-98	2-12	0-5
430: Kashwitna-----	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-5	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	5-16	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	16-18	Gravelly sandy loam, very gravelly sandy loam	0-5	0-20	40-80	35-65	20-50	10-30	80-98	2-12	0-5
	18-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand	0-10	15-35	20-45	15-40	10-30	0-15	80-98	2-12	0-5

Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
430: Kichatna-----	In.										
	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-11	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-15	35-55	30-50	20-40	10-20	80-98	2-12	0-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	0-5	15-35	20-50	15-45	10-30	0-15	80-98	2-12	0-5
431: Kashwitna-----	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-5	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	5-16	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	16-18	Gravelly sandy loam, very gravelly sandy loam	0-5	0-20	40-80	35-65	20-50	10-30	80-98	2-12	0-5
	18-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand	0-10	15-35	20-45	15-40	10-30	0-15	80-98	2-12	0-5
Kichatna-----	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-11	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-15	35-55	30-50	20-40	10-20	80-98	2-12	0-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	0-5	15-35	20-50	15-45	10-30	0-15	80-98	2-12	0-5
432: Kashwitna-----	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-5	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	5-16	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	16-18	Gravelly sandy loam, very gravelly sandy loam	0-5	0-20	40-80	35-65	20-50	10-30	80-98	2-12	0-5
	18-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand	0-10	15-35	20-45	15-40	10-30	0-15	80-98	2-12	0-5

Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
432: Kichatna-----	In.										
	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-11	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-15	35-55	30-50	20-40	10-20	80-98	2-12	0-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	0-5	15-35	20-50	15-45	10-30	0-15	80-98	2-12	0-5
433: Kashwitna-----	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-5	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	5-16	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	16-18	Gravelly sandy loam, very gravelly sandy loam	0-5	0-20	40-80	35-65	20-50	10-30	80-98	2-12	0-5
	18-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand	0-10	15-35	20-45	15-40	10-30	0-15	80-98	2-12	0-5
Kichatna-----	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-11	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-15	35-55	30-50	20-40	10-20	80-98	2-12	0-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	0-5	15-35	20-50	15-45	10-30	0-15	80-98	2-12	0-5
434: Kichatna-----	0-2	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-11	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-15	35-55	30-50	20-40	10-20	80-98	2-12	0-5
	14-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly sand, very gravelly loamy sand	0-5	15-35	20-50	15-45	10-30	0-15	80-98	2-12	0-5

Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
434: Pioneer Peak-----	In.										
	0-3	Highly decomposed plant material	---	---	---	---	---	---	---	---	---
	3-5	Silt loam, loam	0	0	90-100	90-100	70-100	50-90	20-60	30-70	5-15
	5-10	Silt loam, loam, fine sandy loam	0	0-3	90-100	90-100	60-100	40-90	20-60	30-70	5-15
	10-25	Silt loam, loam, fine sandy loam	0	0-3	90-100	90-100	60-100	40-90	20-60	30-70	5-15
	25-37	Gravelly loam, gravelly silt loam, gravelly fine sandy loam	0	0-10	60-80	55-75	35-75	20-50	20-60	40-75	5-15
	37-60	Very gravelly sandy loam, very gravelly loamy sand	0	3-15	35-55	30-50	20-50	10-30	70-90	5-20	5-10
Jacobsen-----	0-8	Muck	---	---	---	---	---	---	---	---	---
	8-11	Mucky silt loam, gravelly silt loam, very cobbly loam	0-5	0-45	50-90	45-85	40-80	35-75	25-65	30-70	0-10
	11-14	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-20	35-55	30-50	20-40	10-20	70-90	10-20	0-10
	14-60	Very gravelly sandy loam, very gravelly loamy sand	0-5	0-20	35-55	30-50	20-40	10-20	70-90	10-20	0-10
435: Matsu-----	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-6	Silt loam, loamy very fine sand, sandy loam	0	0	90-100	85-100	60-100	30-90	20-75	25-70	5-15
	6-11	Silt loam, loamy very fine sand, sandy loam, fine sandy loam	0	0	90-100	85-100	60-100	30-90	20-75	25-70	5-15
	11-15	Silt loam, loamy very fine sand	0	0	90-100	85-100	60-100	30-90	20-75	25-70	5-22
	15-31	Silt loam, loamy very fine sand, sandy loam, very fine sandy loam	0	0	90-100	85-100	60-100	30-90	10-75	25-80	5-22
	31-60	Silt loam, loamy very fine sand, sandy loam, very fine sandy loam	0	0	80-100	75-100	60-100	30-90	10-75	25-80	5-22
436: Matsu-----	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-6	Silt loam, loamy very fine sand, sandy loam	0	0	90-100	85-100	60-100	30-90	20-75	25-70	5-15
	6-11	Silt loam, loamy very fine sand, sandy loam, fine sandy loam	0	0	90-100	85-100	60-100	30-90	20-75	25-70	5-15
	11-15	Silt loam, loamy very fine sand	0	0	90-100	85-100	60-100	30-90	20-75	25-70	5-22
	15-31	Silt loam, loamy very fine sand, sandy loam, very fine sandy loam	0	0	90-100	85-100	60-100	30-90	10-75	25-80	5-22
	31-60	Silt loam, loamy very fine sand, sandy loam, very fine sandy loam	0	0	80-100	75-100	60-100	30-90	10-75	25-80	5-22
437: Moose River-----	0-5	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	5-10	Silt loam, very fine sandy loam, loamy very fine sand	0	0	95-100	95-100	75-100	40-90	10-75	25-90	0-10
	10-50	Stratified fine sand to silt loam	0	0	90-100	90-100	60-100	30-90	10-95	5-90	0-10
	50-60	Gravelly sandy loam, gravelly sand	0	0-10	60-80	55-75	30-50	10-30	80-100	0-15	0-5

Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
437: Niklason-----	In.										
	0-1	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	1-4	Mucky silt loam, silt loam, very fine sandy loam	0	0	95-100	90-100	80-100	45-85	20-50	40-70	0-10
	4-28	Stratified loamy sand to silt loam	0	0	95-100	90-100	80-100	45-85	25-80	20-65	0-10
	28-60	Extremely gravelly coarse sand, very gravelly loamy coarse sand, very gravelly loamy sand	0-5	10-25	35-55	30-50	15-45	0-20	80-100	0-15	0-5
438: Moose River-----	0-5	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	5-10	Silt loam, very fine sandy loam, loamy very fine sand	0	0	95-100	95-100	75-100	40-90	10-75	25-90	0-10
	10-50	Stratified fine sand to silt loam	0	0	90-100	90-100	60-100	30-90	10-95	5-90	0-10
	50-60	Gravelly sandy loam, gravelly sand	0	0-10	60-80	55-75	30-50	10-30	80-100	0-15	0-5
Niklason-----	0-1	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	1-4	Mucky silt loam, silt loam, very fine sandy loam	0	0	95-100	90-100	80-100	45-85	20-50	40-70	0-10
	4-28	Stratified loamy sand to silt loam	0	0	95-100	90-100	80-100	45-85	25-80	20-65	0-10
	28-60	Extremely gravelly coarse sand, very gravelly loamy coarse sand, very gravelly loamy sand	0-5	10-25	35-55	30-50	15-45	0-20	80-100	0-15	0-5
439: Nakochna-----	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-50	40-70	0-10
	4-5	Silt loam, gravelly silt loam	0	0-5	75-100	70-100	60-100	50-90	20-50	40-70	0-10
	5-14	Silt loam, gravelly silt loam	0	0-5	75-100	70-100	60-100	50-90	20-60	30-70	5-15
	14+	Bedrock	---	---	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---
440: Pioneer Peak-----	0-3	Highly decomposed plant material	---	---	---	---	---	---	---	---	---
	3-5	Silt loam, loam	0	0	90-100	90-100	70-100	50-90	20-60	30-70	5-15
	5-10	Silt loam, loam, fine sandy loam	0	0-3	90-100	90-100	60-100	40-90	20-60	30-70	5-15
	10-25	Silt loam, loam, fine sandy loam	0	0-3	90-100	90-100	60-100	40-90	20-60	30-70	5-15
	25-37	Gravelly loam, gravelly silt loam, gravelly fine sandy loam	0	0-10	60-80	55-75	35-75	20-50	20-60	40-75	5-15
	37-60	Very gravelly sandy loam, very gravelly loamy sand	0	3-15	35-55	30-50	20-50	10-30	70-90	5-20	5-10



Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
447: Smithfha-----	In.										
	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-4	Loamy very fine sand, very fine sandy loam, silt loam	0	0	90-100	90-100	85-95	45-80	35-75	25-60	0-5
	4-18	Loamy very fine sand, very fine sandy loam, silt loam	0	0	90-100	90-100	88-100	45-80	35-75	25-60	0-5
	18-19	Loamy very fine sand, sandy loam	0	0	90-100	90-100	88-100	45-60	47-75	25-50	0-5
	19-29	Loamy very fine sand, sandy loam	0	0	90-100	90-100	88-100	45-60	47-75	25-50	0-5
	29-60	Loamy very fine sand, fine sand, sand	0	0	90-100	90-100	60-100	25-60	70-95	10-20	0-5
448: Smithfha-----	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-4	Loamy very fine sand, very fine sandy loam, silt loam	0	0	90-100	90-100	85-95	45-80	35-75	25-60	0-5
	4-18	Loamy very fine sand, very fine sandy loam, silt loam	0	0	90-100	90-100	88-100	45-80	35-75	25-60	0-5
	18-19	Loamy very fine sand, sandy loam	0	0	90-100	90-100	88-100	45-60	47-75	25-50	0-5
	19-29	Loamy very fine sand, sandy loam	0	0	90-100	90-100	88-100	45-60	47-75	25-50	0-5
	29-60	Loamy very fine sand, fine sand, sand	0	0	90-100	90-100	60-100	25-60	70-95	10-20	0-5
449: Smithfha-----	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-4	Loamy very fine sand, very fine sandy loam, silt loam	0	0	90-100	90-100	85-95	45-80	35-75	25-60	0-5
	4-18	Loamy very fine sand, very fine sandy loam, silt loam	0	0	90-100	90-100	88-100	45-80	35-75	25-60	0-5
	18-19	Loamy very fine sand, sandy loam	0	0	90-100	90-100	88-100	45-60	47-75	25-50	0-5
	19-29	Loamy very fine sand, sandy loam	0	0	90-100	90-100	88-100	45-60	47-75	25-50	0-5
	29-60	Loamy very fine sand, fine sand, sand	0	0	90-100	90-100	60-100	25-60	70-95	10-20	0-5
450: Smithfha-----	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-4	Loamy very fine sand, very fine sandy loam, silt loam	0	0	90-100	90-100	85-95	45-80	35-75	25-60	0-5
	4-18	Loamy very fine sand, very fine sandy loam, silt loam	0	0	90-100	90-100	88-100	45-80	35-75	25-60	0-5
	18-19	Loamy very fine sand, sandy loam	0	0	90-100	90-100	88-100	45-60	47-75	25-50	0-5
	19-29	Loamy very fine sand, sandy loam	0	0	90-100	90-100	88-100	45-60	47-75	25-50	0-5
	29-60	Loamy very fine sand, fine sand, sand	0	0	90-100	90-100	60-100	25-60	70-95	10-20	0-5

Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
451: Smithfha-----	In.										
	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-4	Loamy very fine sand, very fine sandy loam, silt loam	0	0	90-100	90-100	85-95	45-80	35-75	25-60	0-5
	4-18	Loamy very fine sand, very fine sandy loam, silt loam	0	0	90-100	90-100	88-100	45-80	35-75	25-60	0-5
	18-19	Loamy very fine sand, sandy loam	0	0	90-100	90-100	88-100	45-60	47-75	25-50	0-5
	19-29	Loamy very fine sand, sandy loam	0	0	90-100	90-100	88-100	45-60	47-75	25-50	0-5
	29-60	Loamy very fine sand, fine sand, sand	0	0	90-100	90-100	60-100	25-60	70-95	10-20	0-5
Anchorpark-----	0-1	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	1-4	Loamy very fine sand, very fine sand, fine sand	0	0	90-100	90-100	65-95	30-60	65-90	10-30	0-10
	4-9	Loamy very fine sand, fine sand, loamy sand	0	0	90-100	90-100	65-95	30-60	65-90	10-30	0-10
	9-14	Fine sand, loamy sand, loamy very fine sand	0	0	90-100	90-100	65-95	20-50	67-100	10-30	0-5
	14-60	Fine sand, sand, very fine sand	0	0	90-100	90-100	50-90	5-40	92-100	0-10	0-3
452: Susitna-----	0-3	Silt loam	0	0	100	100	90-100	75-85	25-45	55-75	0-10
	3-45	Stratified loamy fine sand to silt loam	0	0	100	90-100	70-80	30-45	40-80	20-50	0-10
	45-60	Very gravelly sand	0	5-10	40-55	30-50	15-25	0-5	90-100	0-5	0-5
453: Susivar-----	0-3	Fine sandy loam	0	0	100	95-100	90-95	60-75	35-75	25-35	0-10
	3-60	Stratified sand to silt	0	0	100	95-100	80-90	30-50	10-95	5-85	0-10
Niklavar-----	0-1	Loamy fine sand	0	0	100	95-100	80-90	20-40	75-95	0-15	0-10
	1-30	Stratified sand to silt	0	0	100	95-100	80-90	30-50	10-95	5-85	0-10
	30-60	Very gravelly coarse sand, extremely gravelly coarse sand, very cobbly sand	0-5	15-25	50-65	25-50	10-25	0-5	90-100	0-5	0-5
454: Susivar-----	0-3	Fine sandy loam	0	0	100	95-100	90-95	60-75	35-75	25-35	0-10
	3-60	Stratified sand to silt	0	0	100	95-100	80-90	30-50	10-95	5-85	0-10
Moose River-----	0-5	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	5-10	Silt loam, very fine sandy loam, loamy very fine sand	0	0	95-100	95-100	75-100	40-90	10-75	25-90	0-10
	10-50	Stratified fine sand to silt loam	0	0	90-100	90-100	60-100	30-90	10-95	5-90	0-10
	50-60	Gravelly sandy loam, gravelly sand	0	0-10	60-80	55-75	30-50	10-30	80-100	0-15	0-5
455: Talkeetna-----	0-3	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	3-6	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	6-7	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	7-18	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	18-60	Very cobbly loam, very gravelly loam, very gravelly sandy loam	0-5	0-40	45-65	30-50	20-40	12-25	35-75	25-45	0-10



Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10	3-10	4	10	40	200			
			inches	inches							
In.		Pct.	Pct.					Pct.	Pct.	Pct.	
457: Talkeetna-----	0-3	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	3-6	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	6-7	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	7-18	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	18-60	Very cobbly loam, very gravelly loam, very gravelly sandy loam	0-5	0-40	45-65	30-50	20-40	12-25	35-75	25-45	0-10
Chugach-----	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-8	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	8-10	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	10-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand, extremely gravelly loamy sand	0-5	15-35	25-65	20-50	10-30	1-15	80-98	2-12	0-5
Deneka-----	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Very fine sandy loam, silt loam	0	0	95-100	95-100	90-100	70-80	20-60	30-70	5-15
	4-17	Silt loam, fine sandy loam, sandy loam	0	0-5	90-100	90-95	80-90	60-70	20-60	30-70	5-15
	17-22	Very cobbly sandy loam, very cobbly loam, very gravelly loam	0-5	15-25	45-60	35-55	25-40	15-30	40-80	20-50	5-10
	22+	Bedrock	---	---	---	---	---	---	---	---	---
458: Talkeetna-----	0-3	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	3-6	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	6-7	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	7-18	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	18-60	Very cobbly loam, very gravelly loam, very gravelly sandy loam	0-5	0-40	45-65	30-50	20-40	12-25	35-75	25-45	0-10
Chugach-----	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-8	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	8-10	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	10-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand, extremely gravelly loamy sand	0-5	15-35	25-65	20-50	10-30	1-15	80-98	2-12	0-5

Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
458: Deneka-----	In.										
	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Very fine sandy loam, silt loam	0	0	95-100	95-100	90-100	70-80	20-60	30-70	5-15
	4-17	Silt loam, fine sandy loam, sandy loam	0	0-5	90-100	90-95	80-90	60-70	20-60	30-70	5-15
	17-22	Very cobbly sandy loam, very cobbly loam, very gravelly loam	0-5	15-25	45-60	35-55	25-40	15-30	40-80	20-50	5-10
	22+	Bedrock	---	---	---	---	---	---	---	---	---
459: Talkeetna-----	0-3	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	3-6	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	6-7	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	7-18	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	18-60	Very cobbly loam, very gravelly loam, very gravelly sandy loam	0-5	0-40	45-65	30-50	20-40	12-25	35-75	25-45	0-10
Chugach-----	0-3	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	3-4	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	4-8	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	8-10	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	10-60	Extremely gravelly sand, very gravelly sand, very gravelly loamy sand, extremely gravelly loamy sand	0-5	15-35	25-65	20-50	10-30	1-15	80-98	2-12	0-5
Histic Cryaquepts----	0-9	Mucky peat	---	---	---	---	---	---	---	---	---
	9-20	Silt loam	0-5	0-10	90-100	90-100	80-100	60-90	20-50	40-70	5-15
	20-35	Silt loam, gravelly silt loam	0-5	0-10	70-100	60-100	50-90	40-80	20-60	40-70	5-15
	35-60	Very gravelly sandy loam, gravelly silt loam, gravelly sand, very gravelly loamy sand	0-5	0-10	50-80	45-75	20-70	10-40	30-90	5-70	0-10
460: Talkeetna, cool-----	0-3	Slightly decomposed plant material	---	---	---	---	---	---	---	---	---
	3-6	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	6-7	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	7-18	Silt loam, very fine sandy loam	0	0-5	95-100	95-100	90-100	70-90	20-60	30-70	5-15
	18-60	Very cobbly loam, very gravelly loam, very gravelly sandy loam	0-5	0-40	45-65	30-50	20-40	12-25	35-75	25-45	0-10



Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
465: Whitsol-----	In.										
	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam, loam	0	0	95-100	95-100	90-95	70-80	20-50	40-70	5-15
	4-7	Silt loam, very fine sandy loam, loam	0	0	95-100	95-100	90-95	70-80	20-60	30-70	5-15
	7-17	Silt loam, very fine sandy loam, loam	0	0	95-100	95-100	90-95	70-80	20-60	30-70	5-15
	17-35	Silt loam, very fine sandy loam, loam	0	0	95-100	90-95	85-90	65-75	20-60	30-70	5-15
	35-60	Gravelly loam, very gravelly sandy loam, very gravelly loamy sand	0	0-20	40-80	35-75	25-65	15-45	50-80	15-45	0-10
466: Whitsol-----	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam, loam	0	0	95-100	95-100	90-95	70-80	20-50	40-70	5-15
	4-7	Silt loam, very fine sandy loam, loam	0	0	95-100	95-100	90-95	70-80	20-60	30-70	5-15
	7-17	Silt loam, very fine sandy loam, loam	0	0	95-100	95-100	90-95	70-80	20-60	30-70	5-15
	17-35	Silt loam, very fine sandy loam, loam	0	0	95-100	90-95	85-90	65-75	20-60	30-70	5-15
	35-60	Gravelly loam, very gravelly sandy loam, very gravelly loamy sand	0	0-20	40-80	35-75	25-65	15-45	50-80	15-45	0-10
467: Whitsol-----	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam, loam	0	0	95-100	95-100	90-95	70-80	20-50	40-70	5-15
	4-7	Silt loam, very fine sandy loam, loam	0	0	95-100	95-100	90-95	70-80	20-60	30-70	5-15
	7-17	Silt loam, very fine sandy loam, loam	0	0	95-100	95-100	90-95	70-80	20-60	30-70	5-15
	17-35	Silt loam, very fine sandy loam, loam	0	0	95-100	90-95	85-90	65-75	20-60	30-70	5-15
	35-60	Gravelly loam, very gravelly sandy loam, very gravelly loamy sand	0	0-20	40-80	35-75	25-65	15-45	50-80	15-45	0-10
468: Whitsol-----	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam, loam	0	0	95-100	95-100	90-95	70-80	20-50	40-70	5-15
	4-7	Silt loam, very fine sandy loam, loam	0	0	95-100	95-100	90-95	70-80	20-60	30-70	5-15
	7-17	Silt loam, very fine sandy loam, loam	0	0	95-100	95-100	90-95	70-80	20-60	30-70	5-15
	17-35	Silt loam, very fine sandy loam, loam	0	0	95-100	90-95	85-90	65-75	20-60	30-70	5-15
	35-60	Gravelly loam, very gravelly sandy loam, very gravelly loamy sand	0	0-20	40-80	35-75	25-65	15-45	50-80	15-45	0-10

Table 6.--Engineering Particle Size Data--Continued

Map symbol and soil name	Depth	USDA texture	Fragments		Percentage passing sieve number--				Sand	Silt	Clay
			>10 inches	3-10 inches	4	10	40	200			
			Pct.	Pct.							
469: Whitsol-----	In.										
	0-2	Moderately decomposed plant material	---	---	---	---	---	---	---	---	---
	2-4	Silt loam, very fine sandy loam, loam	0	0	95-100	95-100	90-95	70-80	20-50	40-70	5-15
	4-7	Silt loam, very fine sandy loam, loam	0	0	95-100	95-100	90-95	70-80	20-60	30-70	5-15
	7-17	Silt loam, very fine sandy loam, loam	0	0	95-100	95-100	90-95	70-80	20-60	30-70	5-15
	17-35	Silt loam, very fine sandy loam, loam	0	0	95-100	90-95	85-90	65-75	20-60	30-70	5-15
	35-60	Gravelly loam, very gravelly sandy loam, very gravelly loamy sand	0	0-20	40-80	35-75	25-65	15-45	50-80	15-45	0-10

Table 7.--Physical Properties of the Soils

(See text for definitions of terms used in this table. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	g/cc	In/hr	In/in	Pct	Pct					
400: Anchorpark-----	0-1	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	5	2	134
	1-4	1.20-1.40	2-6	0.08-0.14	0.0-2.9	2.0-8.0	.32	.32			
	4-9	1.20-1.40	2-6	0.08-0.14	0.0-2.9	5.0-12	.32	.32			
	9-14	1.20-1.40	6-20	0.06-0.10	0.0-2.9	2.0-6.0	.24	.24			
	14-60	1.40-1.50	6-20	0.04-0.06	0.0-2.9	0.5-1.5	.20	.20			
401: Andic Humicryods-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	3-5	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	5-20	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	20-60	1.50-1.80	0.2-2	0.08-0.18	0.0-2.9	0.3-0.9	.10	.32			
Rock outcrop-----	---	---	---	---	---	---	---	---	-	---	---
402: Clam Gulch-----	0-4	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	5	1	160
	4-9	0.90-1.30	0.2-0.6	0.20-0.24	0.0-2.9	10-20	.24	.37			
	9-14	1.00-1.40	0.06-0.2	0.22-0.35	0.0-2.9	6.0-12	.32	.37			
	14-46	1.00-1.40	0.06-0.2	0.22-0.35	0.0-2.9	3.0-9.0	.32	.37			
	46-60	1.00-1.40	0.06-0.2	0.22-0.35	0.0-2.9	0.5-2.0	.24	.28			
403: Clam Gulch-----	0-4	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	5	1	160
	4-9	0.90-1.30	0.2-0.6	0.20-0.24	0.0-2.9	10-20	.24	.37			
	9-14	1.00-1.40	0.06-0.2	0.22-0.35	0.0-2.9	6.0-12	.32	.37			
	14-46	1.00-1.40	0.06-0.2	0.22-0.35	0.0-2.9	3.0-9.0	.32	.37			
	46-60	1.00-1.40	0.06-0.2	0.22-0.35	0.0-2.9	0.5-2.0	.24	.28			
Doroshin-----	0-43	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	5	8	0
	43-60	1.25-1.55	0.6-6	0.06-0.22	0.0-2.9	0.1-2.0	.24	.32			
Jacobsen-----	0-8	0.20-0.30	0.6-2	0.32-0.35	0.0-2.9	70-90	.05	.05	1	8	0
	8-11	0.90-1.30	0.6-2	0.16-0.20	0.0-2.9	10-20	.17	.37			
	11-14	1.50-1.60	2-6	0.03-0.07	0.0-2.9	6.0-12	.10	.24			
	14-60	1.60-1.80	2-6	0.03-0.07	0.0-2.9	1.0-6.0	.10	.32			
404: Cryosaprists, tidal flats-----	0-9	0.05-0.10	6-20	0.32-0.35	0.0-2.9	50-70	.05	.05	5	8	0
	9-60	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05			
405: Cryorthents, silty-----	0-1	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	5	6	48
	1-60	1.30-1.45	0.2-0.6	0.18-0.22	0.0-2.9	0.5-1.5	.49	.49			
406: Cryorthents, skeletal---	0-60	1.40-1.80	0.6-6	0.05-0.10	0.0-2.9	0.5-1.5	.10	.32	5	3	86
Urban land-----	---	---	---	---	---	---	---	---	-	---	---
407: Cryorthents, skeletal---	0-60	1.40-1.80	0.6-6	0.05-0.10	0.0-2.9	0.5-1.5	.10	.32	5	3	86
Urban land-----	---	---	---	---	---	---	---	---	-	---	---
408: Deception-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-3	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	6-14	1.60-1.80	0.6-2	0.08-0.12	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	0.6-2	0.06-0.10	0.0-2.9	0.3-0.9	.10	.28			
Cryorthents, skeletal---	0-1	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	5	3	86
	1-60	1.40-1.80	0.6-6	0.05-0.10	0.0-2.9	0.5-1.5	.10	.32			

Table 7.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	g/cc	In/hr	In/in	Pct	Pct					
409:											
Deception-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-3	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	6-14	1.60-1.80	0.6-2	0.08-0.12	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	0.6-2	0.06-0.10	0.0-2.9	0.3-0.9	.10	.28			
Disappear-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	3	8	0
	3-8	0.20-0.30	0.6-2	0.32-0.35	0.0-2.9	70-90	.05	.05			
	8-14	1.10-1.30	0.6-2	0.20-0.24	0.0-2.9	6.0-12	.15	.24			
	14-51	1.10-1.30	0.6-2	0.18-0.22	0.0-2.9	2.0-7.0	.28	.37			
	51-55	1.20-1.40	2-6	0.10-0.15	0.0-2.9	1.0-6.0	.28	.32			
	55-63	1.40-1.70	2-6	0.01-0.06	0.0-2.9	0.5-2.0	.02	.32			
410:											
Deception-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-3	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	6-14	1.60-1.80	0.6-2	0.08-0.12	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	0.6-2	0.06-0.10	0.0-2.9	0.3-0.9	.10	.28			
Estelle-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-18	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	18-28	1.60-1.80	0.6-2	0.08-0.12	0.0-2.9	2.0-6.0	.10	.24			
	28-60	1.50-1.80	0.6-2	0.04-0.08	0.0-2.9	0.3-0.9	.10	.28			
Kichatna-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-11	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	11-14	1.50-1.60	2-6	0.04-0.08	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
411:											
Deception-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-3	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	6-14	1.60-1.80	0.6-2	0.08-0.12	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	0.6-2	0.06-0.10	0.0-2.9	0.3-0.9	.10	.28			
Estelle-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-18	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	18-28	1.60-1.80	0.6-2	0.08-0.12	0.0-2.9	2.0-6.0	.10	.24			
	28-60	1.50-1.80	0.6-2	0.04-0.08	0.0-2.9	0.3-0.9	.10	.28			
Kichatna-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-11	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	11-14	1.50-1.60	2-6	0.04-0.08	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
412:											
Deception-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-3	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	6-14	1.60-1.80	0.6-2	0.08-0.12	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	0.6-2	0.06-0.10	0.0-2.9	0.3-0.9	.10	.28			
Estelle-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-18	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	18-28	1.60-1.80	0.6-2	0.08-0.12	0.0-2.9	2.0-6.0	.10	.24			
	28-60	1.50-1.80	0.6-2	0.04-0.08	0.0-2.9	0.3-0.9	.10	.28			
Kichatna-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-11	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	11-14	1.50-1.60	2-6	0.04-0.08	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			

Table 7.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	g/cc	In/hr	In/in	Pct	Pct					
413: Deception-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-3	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	6-14	1.60-1.80	0.6-2	0.08-0.12	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	0.6-2	0.06-0.10	0.0-2.9	0.3-0.9	.10	.28			
Estelle-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-18	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	18-28	1.60-1.80	0.6-2	0.08-0.12	0.0-2.9	2.0-6.0	.10	.24			
	28-60	1.50-1.80	0.6-2	0.04-0.08	0.0-2.9	0.3-0.9	.10	.28			
Kichatna-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-11	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	11-14	1.50-1.60	2-6	0.04-0.08	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
414: Deception-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-3	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	6-14	1.60-1.80	0.6-2	0.08-0.12	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	0.6-2	0.06-0.10	0.0-2.9	0.3-0.9	.10	.28			
Estelle-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-18	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	18-28	1.60-1.80	0.6-2	0.08-0.12	0.0-2.9	2.0-6.0	.10	.24			
	28-60	1.50-1.80	0.6-2	0.04-0.08	0.0-2.9	0.3-0.9	.10	.28			
Kichatna-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-11	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	11-14	1.50-1.60	2-6	0.04-0.08	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
415: Deception-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-3	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	6-14	1.60-1.80	0.6-2	0.08-0.12	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	0.6-2	0.06-0.10	0.0-2.9	0.3-0.9	.10	.28			
Estelle-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-18	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	18-28	1.60-1.80	0.6-2	0.08-0.12	0.0-2.9	2.0-6.0	.10	.24			
	28-60	1.50-1.80	0.6-2	0.04-0.08	0.0-2.9	0.3-0.9	.10	.28			
Kichatna-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-11	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	11-14	1.50-1.60	2-6	0.04-0.08	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
416: Disappear-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	3	8	0
	3-8	0.20-0.30	0.6-2	0.32-0.35	0.0-2.9	70-90	.05	.05			
	8-14	1.10-1.30	0.6-2	0.20-0.24	0.0-2.9	6.0-12	.15	.24			
	14-51	1.10-1.30	0.6-2	0.18-0.22	0.0-2.9	2.0-7.0	.28	.37			
	51-55	1.20-1.40	2-6	0.10-0.15	0.0-2.9	1.0-6.0	.28	.32			
	55-63	1.40-1.70	2-6	0.01-0.06	0.0-2.9	0.5-2.0	.02	.32			
Pioneer Peak-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	70-90	.05	.05	2	1	160
	3-5	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	5-10	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	6.0-12	.32	.37			
	10-25	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	6.0-12	.32	.37			
	25-37	0.90-1.20	0.6-6	0.16-0.23	0.0-2.9	2.0-7.0	.15	.28			
	37-60	1.30-1.70	0.6-20	0.05-0.12	0.0-2.9	0.5-2.0	.10	.37			

Table 7.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	g/cc	In/hr	In/in	Pct	Pct					
417: Doroshin-----	0-43 43-60	0.07-0.18 1.25-1.55	2-6 0.6-6	0.32-0.35 0.06-0.22	0.0-2.9 0.0-2.9	60-80 0.1-2.0	.05 .24	.05 .32	5	8	0
418: Dumps, landfill-----	---	---	---	---	---	---	---	---	1	1	160
419: Eklutna-----	0-2 2-60	0.07-0.18 1.40-1.70	2-6 6-20	0.32-0.35 0.01-0.05	0.0-2.9 0.0-2.9	40-70 0.5-1.5	.05 .05	.05 .17	5	8	0
420: Haplocryods-----	0-3 3-5 5-8 8-24 24+	0.07-0.18 0.65-0.90 0.65-0.90 0.90-1.10 ---	2-6 0.6-2 0.6-2 0.6-2 0.00-0.00	0.32-0.35 0.31-0.37 0.31-0.37 0.31-0.37 ---	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 ---	40-70 2.0-8.0 4.0-12 4.0-12 ---	.05 .28 .24 .10 ---	.05 .37 .32 .28 ---	1	1	160
421: Histic Cryaquepts-----	0-9 9-20 20-35 35-60	0.07-0.18 1.00-1.20 1.00-1.20 1.20-1.60	2-6 0.6-2 0.6-2 0.6-6	0.32-0.35 0.28-0.34 0.23-0.29 0.05-0.15	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	60-80 10-20 6.0-12 0.5-2.0	.05 .28 .24 .15	.05 .37 .37 .32	5	1	160
422: Histic Cryaquepts-----	0-9 9-20 20-35 35-60	0.07-0.18 1.00-1.20 1.00-1.20 1.20-1.60	2-6 0.6-2 0.6-2 0.6-6	0.32-0.35 0.28-0.34 0.23-0.29 0.05-0.15	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	60-80 10-20 6.0-12 0.5-2.0	.05 .28 .24 .15	.05 .37 .37 .32	5	1	160
Hurdygurdy-----	0-5 5-8 8-18 18-60	0.05-0.10 0.65-0.90 0.65-0.90 1.50-1.80	6-20 0.6-2 0.6-2 0.2-2	0.32-0.35 0.31-0.37 0.31-0.37 0.08-0.12	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	25-45 2.0-8.0 15-30 0.3-0.9	.05 .32 .32 .10	.05 .37 .37 .32	1	1	160
423: Hurdygurdy-----	0-5 5-8 8-18 18-60	0.05-0.10 0.65-0.90 0.65-0.90 1.50-1.80	6-20 0.6-2 0.6-2 0.2-2	0.32-0.35 0.31-0.37 0.31-0.37 0.08-0.12	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	25-45 2.0-8.0 15-30 0.3-0.9	.05 .32 .32 .10	.05 .37 .37 .32	1	1	160
Siwash-----	0-4 4-5 5-14 14-21 21+	0.07-0.18 0.65-0.90 0.65-0.90 1.60-1.80 ---	2-6 0.6-2 0.6-2 0.2-2 0.00-0.00	0.32-0.35 0.25-0.33 0.31-0.37 0.08-0.12 ---	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 ---	40-70 2.0-8.0 15-30 1.0-2.0 ---	.05 .32 .32 .10 ---	.05 .37 .37 .24 ---	1	1	160
Rock outcrop-----	---	---	---	---	---	---	---	---	-	---	---
424: Icknuun, ponded-----	0-10 10-14 14-60	0.07-0.18 1.30-1.40 0.07-0.18	2-6 2-6 2-6	0.32-0.35 0.18-0.22 0.32-0.35	0.0-2.9 0.0-2.9 0.0-2.9	60-80 10-20 60-80	.05 .24 .05	.05 .37 .05	5	8	0
425: Jacobsen-----	0-8 8-11 11-14 14-60	0.20-0.30 0.90-1.30 1.50-1.60 1.60-1.80	0.6-2 0.6-2 2-6 2-6	0.32-0.35 0.16-0.20 0.03-0.07 0.03-0.07	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	70-90 10-20 6.0-12 1.0-6.0	.05 .17 .10 .10	.05 .37 .24 .32	1	8	0
Disappear-----	0-3 3-8 8-14 14-51 51-55 55-63	0.07-0.18 0.20-0.30 1.10-1.30 1.10-1.30 1.20-1.40 1.40-1.70	2-6 0.6-2 0.6-2 0.6-2 2-6 2-6	0.32-0.35 0.32-0.35 0.20-0.24 0.18-0.22 0.10-0.15 0.01-0.06	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	60-80 70-90 6.0-12 2.0-7.0 1.0-6.0 0.5-2.0	.05 .05 .15 .28 .28 .02	.05 .05 .24 .37 .32 .32	3	8	0
Doroshin, ponded-----	0-43 43-60	0.07-0.18 1.25-1.55	2-6 0.6-6	0.32-0.35 0.06-0.22	0.0-2.9 0.0-2.9	60-80 0.1-2.0	.05 .24	.05 .32	5	8	0

Table 7.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	g/cc	In/hr	In/in	Pct	Pct					
426: Jacobsen-----	0-8	0.20-0.30	0.6-2	0.32-0.35	0.0-2.9	70-90	.05	.05	1	8	0
	8-11	0.90-1.30	0.6-2	0.16-0.20	0.0-2.9	10-20	.17	.37			
	11-14	1.50-1.60	2-6	0.03-0.07	0.0-2.9	6.0-12	.10	.24			
	14-60	1.60-1.80	2-6	0.03-0.07	0.0-2.9	1.0-6.0	.10	.32			
Disappear-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	3	8	0
	3-8	0.20-0.30	0.6-2	0.32-0.35	0.0-2.9	70-90	.05	.05			
	8-14	1.10-1.30	0.6-2	0.20-0.24	0.0-2.9	6.0-12	.15	.24			
	14-51	1.10-1.30	0.6-2	0.18-0.22	0.0-2.9	2.0-7.0	.28	.37			
	51-55	1.20-1.40	2-6	0.10-0.15	0.0-2.9	1.0-6.0	.28	.32			
	55-63	1.40-1.70	2-6	0.01-0.06	0.0-2.9	0.5-2.0	.02	.32			
Doroshin-----	0-43	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	5	8	0
	43-60	1.25-1.55	0.6-6	0.06-0.22	0.0-2.9	0.1-2.0	.24	.32			
427: Jacobsen-----	0-8	0.20-0.30	0.6-2	0.32-0.35	0.0-2.9	70-90	.05	.05	1	8	0
	8-11	0.90-1.30	0.6-2	0.16-0.20	0.0-2.9	10-20	.17	.37			
	11-14	1.50-1.60	2-6	0.03-0.07	0.0-2.9	6.0-12	.10	.24			
	14-60	1.60-1.80	2-6	0.03-0.07	0.0-2.9	1.0-6.0	.10	.32			
Disappear-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	3	8	0
	3-8	0.20-0.30	0.6-2	0.32-0.35	0.0-2.9	70-90	.05	.05			
	8-14	1.10-1.30	0.6-2	0.20-0.24	0.0-2.9	6.0-12	.15	.24			
	14-51	1.10-1.30	0.6-2	0.18-0.22	0.0-2.9	2.0-7.0	.28	.37			
	51-55	1.20-1.40	2-6	0.10-0.15	0.0-2.9	1.0-6.0	.28	.32			
	55-63	1.40-1.70	2-6	0.01-0.06	0.0-2.9	0.5-2.0	.02	.32			
Doroshin-----	0-43	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	5	8	0
	43-60	1.25-1.55	0.6-6	0.06-0.22	0.0-2.9	0.1-2.0	.24	.32			
428: Kashwitna-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	3-5	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	5-16	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	16-18	1.50-1.60	2-6	0.06-0.10	0.0-2.9	1.0-2.0	.10	.24			
	18-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
Kichatna-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-11	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	11-14	1.50-1.60	2-6	0.04-0.08	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
429: Kashwitna-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	3-5	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	5-16	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	16-18	1.50-1.60	2-6	0.06-0.10	0.0-2.9	1.0-2.0	.10	.24			
	18-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
Kichatna-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-11	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	11-14	1.50-1.60	2-6	0.04-0.08	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
430: Kashwitna-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	3-5	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	5-16	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	16-18	1.50-1.60	2-6	0.06-0.10	0.0-2.9	1.0-2.0	.10	.24			
	18-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
Kichatna-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-11	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	11-14	1.50-1.60	2-6	0.04-0.08	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			

Table 7.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	g/cc	In/hr	In/in	Pct	Pct					
431:											
Kashwitna-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	3-5	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	5-16	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	16-18	1.50-1.60	2-6	0.06-0.10	0.0-2.9	1.0-2.0	.10	.24			
	18-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
Kichatna-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-11	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	11-14	1.50-1.60	2-6	0.04-0.08	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
432:											
Kashwitna-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	3-5	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	5-16	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	16-18	1.50-1.60	2-6	0.06-0.10	0.0-2.9	1.0-2.0	.10	.24			
	18-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
Kichatna-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-11	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	11-14	1.50-1.60	2-6	0.04-0.08	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
433:											
Kashwitna-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	3-5	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	5-16	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	16-18	1.50-1.60	2-6	0.06-0.10	0.0-2.9	1.0-2.0	.10	.24			
	18-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
Kichatna-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-11	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	11-14	1.50-1.60	2-6	0.04-0.08	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
434:											
Kichatna-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-11	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	11-14	1.50-1.60	2-6	0.04-0.08	0.0-2.9	2.0-6.0	.10	.24			
	14-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
Pioneer Peak-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	70-90	.05	.05	2	1	160
	3-5	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	5-10	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	6.0-12	.32	.37			
	10-25	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	6.0-12	.32	.37			
	25-37	0.90-1.20	0.6-6	0.16-0.23	0.0-2.9	2.0-7.0	.15	.28			
	37-60	1.30-1.70	0.6-20	0.05-0.12	0.0-2.9	0.5-2.0	.10	.37			
Jacobsen-----	0-8	0.20-0.30	0.6-2	0.32-0.35	0.0-2.9	70-90	.05	.05	1	8	0
	8-11	0.90-1.30	0.6-2	0.16-0.20	0.0-2.9	10-20	.17	.37			
	11-14	1.50-1.60	2-6	0.03-0.07	0.0-2.9	6.0-12	.10	.24			
	14-60	1.60-1.80	2-6	0.03-0.07	0.0-2.9	1.0-6.0	.10	.32			
435:											
Matsu-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	5	1	160
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.37	.37			
	6-11	0.65-0.90	2-6	0.31-0.37	0.0-2.9	6.0-12	.37	.37			
	11-15	0.90-1.30	2-6	0.15-0.22	0.0-2.9	5.0-20	.37	.37			
	15-31	0.90-1.30	0.6-2	0.13-0.22	0.0-2.9	1.0-2.0	.37	.37			
	31-60	0.90-1.30	0.6-2	0.13-0.22	0.0-2.9	0.5-2.0	.32	.37			

Table 7.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	g/cc	In/hr	In/in	Pct	Pct					
436: Matsu-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	5	1	160
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.37	.37			
	6-11	0.65-0.90	2-6	0.31-0.37	0.0-2.9	6.0-12	.37	.37			
	11-15	0.90-1.30	2-6	0.15-0.22	0.0-2.9	5.0-20	.37	.37			
	15-31	0.90-1.30	0.6-2	0.13-0.22	0.0-2.9	1.0-2.0	.37	.37			
	31-60	0.90-1.30	0.6-2	0.13-0.22	0.0-2.9	0.5-2.0	.32	.37			
437: Moose River-----	0-5	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	3	8	0
	5-10	0.85-0.95	0.6-2	0.15-0.22	0.0-2.9	4.0-8.0	.32	.37			
	10-50	0.85-1.00	0.6-2	0.15-0.22	0.0-2.9	1.0-5.0	.32	.37			
	50-60	1.40-1.50	2-20	0.04-0.07	0.0-2.9	1.0-5.0	.15	.32			
Niklason-----	0-1	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	2	2	134
	1-4	0.80-1.00	0.6-2	0.19-0.25	0.0-2.9	10-20	.32	.37			
	4-28	0.80-1.00	0.6-2	0.19-0.25	0.0-2.9	3.0-9.0	.32	.37			
	28-60	1.50-1.60	6-20	0.02-0.04	0.0-2.9	0.5-2.0	.02	.05			
438: Moose River-----	0-5	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	3	8	0
	5-10	0.85-0.95	0.6-2	0.15-0.22	0.0-2.9	4.0-8.0	.32	.37			
	10-50	0.85-1.00	0.6-2	0.15-0.22	0.0-2.9	1.0-5.0	.32	.37			
	50-60	1.40-1.50	2-20	0.04-0.07	0.0-2.9	1.0-5.0	.15	.32			
Niklason-----	0-1	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	2	1	134
	1-4	0.80-1.00	0.6-2	0.19-0.25	0.0-2.9	10-20	.32	.37			
	4-28	0.80-1.00	0.6-2	0.19-0.25	0.0-2.9	3.0-9.0	.32	.37			
	28-60	1.50-1.60	6-20	0.02-0.04	0.0-2.9	0.5-2.0	.02	.05			
439: Nakochna-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.25-0.33	0.0-2.9	12-18	.32	.37			
	4-5	0.65-0.90	0.6-2	0.25-0.33	0.0-2.9	2.0-8.0	.32	.37			
	5-14	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	14+	---	0.00-0.00	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	-	---	---
440: Pioneer Peak-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	70-90	.05	.05	2	1	160
	3-5	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	5-10	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	6.0-12	.32	.37			
	10-25	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	6.0-12	.32	.37			
	25-37	0.90-1.20	0.6-6	0.16-0.23	0.0-2.9	2.0-7.0	.15	.28			
	37-60	1.30-1.70	0.6-20	0.05-0.12	0.0-2.9	0.5-2.0	.10	.37			
441: Pioneer Peak-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	70-90	.05	.05	2	1	160
	3-5	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	5-10	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	6.0-12	.32	.37			
	10-25	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	6.0-12	.32	.37			
	25-37	0.90-1.20	0.6-6	0.16-0.23	0.0-2.9	2.0-7.0	.15	.28			
	37-60	1.30-1.70	0.6-20	0.05-0.12	0.0-2.9	0.5-2.0	.10	.37			
442: Pioneer Peak-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	70-90	.05	.05	2	1	160
	3-5	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	5-10	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	6.0-12	.32	.37			
	10-25	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	6.0-12	.32	.37			
	25-37	0.90-1.20	0.6-6	0.16-0.23	0.0-2.9	2.0-7.0	.15	.28			
	37-60	1.30-1.70	0.6-20	0.05-0.12	0.0-2.9	0.5-2.0	.10	.37			
Jacobsen-----	0-8	0.20-0.30	0.6-2	0.32-0.35	0.0-2.9	70-90	.05	.05	1	8	0
	8-11	0.90-1.30	0.6-2	0.16-0.20	0.0-2.9	10-20	.17	.37			
	11-14	1.50-1.60	2-6	0.03-0.07	0.0-2.9	6.0-12	.10	.24			
	14-60	1.60-1.80	2-6	0.03-0.07	0.0-2.9	1.0-6.0	.10	.32			
Doroshin-----	0-43	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	5	8	0
	43-60	1.25-1.55	0.6-6	0.06-0.22	0.0-2.9	0.1-2.0	.24	.32			

Table 7.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	g/cc	In/hr	In/in	Pct	Pct					
443: Pits, gravel-----	---	---	0.00-0.06	---	---	---	---	---	5	3	86
444: Riverwash-----	---	---	---	---	---	---	---	---	-	---	---
Niklavar, frequently flooded-----	0-1	1.10-1.25	0.6-2	0.10-0.15	0.0-2.9	2.0-5.0	.24	.24	2	2	134
	1-30	1.10-1.25	0.6-2	0.10-0.15	0.0-2.9	1.0-3.0	.24	.24			
	30-60	1.50-1.60	6-20	0.02-0.04	0.0-2.9	0.0-1.0	.02	.15			
445: Rock outcrop-----	---	---	---	---	---	---	---	---	-	---	---
446: Salamatof-----	0-60	0.05-0.10	6-20	0.32-0.35	0.0-2.9	50-70	.05	.05	5	8	0
447: Smithfha-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	5	2	134
	3-4	0.90-1.30	2-6	0.10-0.15	0.0-2.9	2.0-8.0	.28	.32			
	4-18	0.90-1.30	2-6	0.10-0.15	0.0-2.9	5.0-12	.28	.32			
	18-19	0.90-1.30	2-6	0.10-0.15	0.0-2.9	4.0-9.0	.28	.32			
	19-29	0.90-1.30	2-6	0.10-0.15	0.0-2.9	3.0-7.0	.28	.32			
	29-60	0.90-1.30	2-6	0.10-0.15	0.0-2.9	0.5-1.5	.28	.32			
448: Smithfha-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	5	2	134
	3-4	0.90-1.30	2-6	0.10-0.15	0.0-2.9	2.0-8.0	.28	.32			
	4-18	0.90-1.30	2-6	0.10-0.15	0.0-2.9	5.0-12	.28	.32			
	18-19	0.90-1.30	2-6	0.10-0.15	0.0-2.9	4.0-9.0	.28	.32			
	19-29	0.90-1.30	2-6	0.10-0.15	0.0-2.9	3.0-7.0	.28	.32			
	29-60	0.90-1.30	2-6	0.10-0.15	0.0-2.9	0.5-1.5	.28	.32			
449: Smithfha-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	5	2	134
	3-4	0.90-1.30	2-6	0.10-0.15	0.0-2.9	2.0-8.0	.28	.32			
	4-18	0.90-1.30	2-6	0.10-0.15	0.0-2.9	5.0-12	.28	.32			
	18-19	0.90-1.30	2-6	0.10-0.15	0.0-2.9	4.0-9.0	.28	.32			
	19-29	0.90-1.30	2-6	0.10-0.15	0.0-2.9	3.0-7.0	.28	.32			
	29-60	0.90-1.30	2-6	0.10-0.15	0.0-2.9	0.5-1.5	.28	.32			
450: Smithfha-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	5	2	134
	3-4	0.90-1.30	2-6	0.10-0.15	0.0-2.9	2.0-8.0	.28	.32			
	4-18	0.90-1.30	2-6	0.10-0.15	0.0-2.9	5.0-12	.28	.32			
	18-19	0.90-1.30	2-6	0.10-0.15	0.0-2.9	4.0-9.0	.28	.32			
	19-29	0.90-1.30	2-6	0.10-0.15	0.0-2.9	3.0-7.0	.28	.32			
	29-60	0.90-1.30	2-6	0.10-0.15	0.0-2.9	0.5-1.5	.28	.32			
451: Smithfha-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	5	2	134
	3-4	0.90-1.30	2-6	0.10-0.15	0.0-2.9	2.0-8.0	.28	.32			
	4-18	0.90-1.30	2-6	0.10-0.15	0.0-2.9	5.0-12	.28	.32			
	18-19	0.90-1.30	2-6	0.10-0.15	0.0-2.9	4.0-9.0	.28	.32			
	19-29	0.90-1.30	2-6	0.10-0.15	0.0-2.9	3.0-7.0	.28	.32			
	29-60	0.90-1.30	2-6	0.10-0.15	0.0-2.9	0.5-1.5	.28	.32			
Anchorpark-----	0-1	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	5	2	134
	1-4	1.20-1.40	2-6	0.08-0.14	0.0-2.9	2.0-8.0	.32	.32			
	4-9	1.20-1.40	2-6	0.08-0.14	0.0-2.9	5.0-12	.32	.32			
	9-14	1.20-1.40	6-20	0.06-0.10	0.0-2.9	2.0-6.0	.24	.24			
	14-60	1.40-1.50	6-20	0.04-0.06	0.0-2.9	0.5-1.5	.20	.20			
452: Susitna-----	0-3	0.80-0.90	0.6-2	0.25-0.27	0.0-2.9	2.0-5.0	.37	.37	3	2	134
	3-45	0.90-1.00	0.6-2	0.15-0.17	0.0-2.9	0.2-1.0	.37	.37			
	45-60	1.50-1.60	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.20			

Table 7.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	g/cc	In/hr	In/in	Pct	Pct					
453: Susivar-----	0-3	1.10-1.25	0.6-2	0.26-0.30	0.0-2.9	2.0-5.0	.37	.37	5	2	134
	3-60	1.10-1.25	0.6-2	0.10-0.15	0.0-2.9	0.0-1.0	.24	.24			
Niklavar-----	0-1	1.10-1.25	0.6-2	0.10-0.15	0.0-2.9	2.0-5.0	.24	.24	2	2	134
	1-30	1.10-1.25	0.6-2	0.10-0.15	0.0-2.9	1.0-3.0	.24	.24			
	30-60	1.50-1.60	6-20	0.02-0.04	0.0-2.9	0.0-1.0	.02	.15			
454: Susivar-----	0-3	1.10-1.25	0.6-2	0.26-0.30	0.0-2.9	2.0-5.0	.37	.37	5	2	134
	3-60	1.10-1.25	0.6-2	0.10-0.15	0.0-2.9	0.0-1.0	.24	.24			
Moose River-----	0-5	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	3	8	0
	5-10	0.85-0.95	0.6-2	0.15-0.22	0.0-2.9	4.0-8.0	.32	.37			
	10-50	0.85-1.00	0.6-2	0.15-0.22	0.0-2.9	1.0-5.0	.32	.37			
	50-60	1.40-1.50	2-20	0.04-0.07	0.0-2.9	1.0-5.0	.15	.32			
455: Talkeetna-----	0-3	0.05-0.10	6-20	0.32-0.35	0.0-2.9	25-45	.05	.05	1	1	160
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	6-7	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	7-18	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	18-60	1.50-1.80	0.2-2	0.08-0.12	0.0-2.9	0.3-0.9	.10	.32			
Chugach-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	3-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-8	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	8-10	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	10-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
Deneka-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.25-0.33	0.0-2.9	2.0-8.0	.32	.37			
	4-17	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	17-22	1.60-1.80	0.2-2	0.08-0.12	0.0-2.9	1.0-2.0	.10	.24			
	22+	---	0.00-0.00	---	---	---	---	---			
456: Talkeetna-----	0-3	0.05-0.10	6-20	0.32-0.35	0.0-2.9	25-45	.05	.05	1	1	160
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	6-7	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	7-18	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	18-60	1.50-1.80	0.2-2	0.08-0.12	0.0-2.9	0.3-0.9	.10	.32			
Chugach-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	3-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-8	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	8-10	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	10-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
Deneka-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.25-0.33	0.0-2.9	2.0-8.0	.32	.37			
	4-17	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	17-22	1.60-1.80	0.2-2	0.08-0.12	0.0-2.9	1.0-2.0	.10	.24			
	22+	---	0.00-0.00	---	---	---	---	---			
457: Talkeetna-----	0-3	0.05-0.10	6-20	0.32-0.35	0.0-2.9	25-45	.05	.05	1	1	160
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	6-7	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	7-18	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	18-60	1.50-1.80	0.2-2	0.08-0.12	0.0-2.9	0.3-0.9	.10	.32			
Chugach-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	3-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-8	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	8-10	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	10-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			

Table 7.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	g/cc	In/hr	In/in	Pct	Pct					
457: Deneka-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.25-0.33	0.0-2.9	2.0-8.0	.32	.37			
	4-17	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	17-22	1.60-1.80	0.2-2	0.08-0.12	0.0-2.9	1.0-2.0	.10	.24			
	22+	---	0.00-0.00	---	---	---	---	---			
458: Talkeetna-----	0-3	0.05-0.10	6-20	0.32-0.35	0.0-2.9	25-45	.05	.05	1	1	160
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	6-7	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	7-18	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	18-60	1.50-1.80	0.2-2	0.08-0.12	0.0-2.9	0.3-0.9	.10	.32			
Chugach-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	3-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-8	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	8-10	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	10-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
458: Deneka-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.25-0.33	0.0-2.9	2.0-8.0	.32	.37			
	4-17	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	17-22	1.60-1.80	0.2-2	0.08-0.12	0.0-2.9	1.0-2.0	.10	.24			
	22+	---	0.00-0.00	---	---	---	---	---			
459: Talkeetna-----	0-3	0.05-0.10	6-20	0.32-0.35	0.0-2.9	25-45	.05	.05	1	1	160
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	6-7	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	7-18	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	18-60	1.50-1.80	0.2-2	0.08-0.12	0.0-2.9	0.3-0.9	.10	.32			
Chugach-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	3-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-8	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	8-10	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	10-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
Histic Cryaquepts-----	0-9	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	5	1	160
	9-20	1.00-1.20	0.6-2	0.28-0.34	0.0-2.9	10-20	.28	.37			
	20-35	1.00-1.20	0.6-2	0.23-0.29	0.0-2.9	6.0-12	.24	.37			
	35-60	1.20-1.60	0.6-6	0.05-0.15	0.0-2.9	0.5-2.0	.15	.32			
460: Talkeetna, cool-----	0-3	0.05-0.10	6-20	0.32-0.35	0.0-2.9	25-45	.05	.05	1	1	160
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	6-7	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	7-18	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	18-60	1.50-1.80	0.2-2	0.08-0.12	0.0-2.9	0.3-0.9	.10	.32			
Chugach, cool-----	0-3	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	3-4	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	4-8	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	8-10	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	10-60	1.50-1.80	6-20	0.03-0.05	0.0-2.9	0.3-0.9	.05	.24			
Histic Cryaquepts-----	0-9	0.07-0.18	2-6	0.32-0.35	0.0-2.9	60-80	.05	.05	5	1	160
	9-20	1.00-1.20	0.6-2	0.28-0.34	0.0-2.9	10-20	.28	.37			
	20-35	1.00-1.20	0.6-2	0.23-0.29	0.0-2.9	6.0-12	.24	.37			
	35-60	1.20-1.60	0.6-6	0.05-0.15	0.0-2.9	0.5-2.0	.15	.32			
461: Talkeetna-----	0-3	0.05-0.10	6-20	0.32-0.35	0.0-2.9	25-45	.05	.05	1	1	160
	3-6	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	6-7	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	7-18	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	18-60	1.50-1.80	0.2-2	0.08-0.12	0.0-2.9	0.3-0.9	.10	.32			

Table 7.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	g/cc	In/hr	In/in	Pct	Pct					
461: Deneka-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	1	1	160
	2-4	0.65-0.90	0.6-2	0.25-0.33	0.0-2.9	2.0-8.0	.32	.37			
	4-17	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	15-30	.32	.37			
	17-22	1.60-1.80	0.2-2	0.08-0.12	0.0-2.9	1.0-2.0	.10	.24			
	22+	---	0.00-0.00	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	-	---	---
462: Typic Cryaquepts, tidal flats-----	0-16	1.00-1.30	0.6-2	0.20-0.24	0.0-2.9	0.0-2.0	.37	.37	5	1	160
	16-21	1.00-1.30	0.6-2	0.15-0.24	0.0-2.9	0.0-2.0	.37	.37			
	21-60	1.00-1.30	0.6-2	0.20-0.24	0.0-2.9	0.0-2.0	.37	.37			
Typic Cryaquepts, beach terrace-----	0-30	1.00-1.30	0.6-2	0.20-0.24	0.0-2.9	0.0-2.0	.37	.37	5	1	160
	30-38	1.00-1.30	0.6-2	0.20-0.24	0.0-2.9	0.0-2.0	.37	.37			
	38-60	1.00-1.30	0.6-2	0.20-0.24	0.0-2.9	0.0-2.0	.37	.37			
463: Water-----	---	---	---	---	---	---	---	---	-	---	---
464: Water, saline-----	---	---	---	---	---	---	---	---	-	---	---
465: Whitsol-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	3	1	160
	2-4	0.75-0.90	0.6-2	0.30-0.32	0.0-2.9	10-20	.32	.37			
	4-7	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	7-17	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	17-35	0.90-1.10	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	35-60	1.50-1.80	0.6-6	0.04-0.12	0.0-2.9	0.3-0.9	.10	.32			
466: Whitsol-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	3	1	160
	2-4	0.75-0.90	0.6-2	0.30-0.32	0.0-2.9	10-20	.32	.37			
	4-7	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	7-17	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	17-35	0.90-1.10	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	35-60	1.50-1.80	0.6-6	0.04-0.12	0.0-2.9	0.3-0.9	.10	.32			
467: Whitsol-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	3	1	160
	2-4	0.75-0.90	0.6-2	0.30-0.32	0.0-2.9	10-20	.32	.37			
	4-7	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	7-17	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	17-35	0.90-1.10	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	35-60	1.50-1.80	0.6-6	0.04-0.12	0.0-2.9	0.3-0.9	.10	.32			
468: Whitsol-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	3	1	160
	2-4	0.75-0.90	0.6-2	0.30-0.32	0.0-2.9	10-20	.32	.37			
	4-7	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	7-17	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	17-35	0.90-1.10	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	35-60	1.50-1.80	0.6-6	0.04-0.12	0.0-2.9	0.3-0.9	.10	.32			
469: Whitsol-----	0-2	0.07-0.18	2-6	0.32-0.35	0.0-2.9	40-70	.05	.05	3	1	160
	2-4	0.75-0.90	0.6-2	0.30-0.32	0.0-2.9	10-20	.32	.37			
	4-7	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	2.0-8.0	.32	.37			
	7-17	0.65-0.90	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	17-35	0.90-1.10	0.6-2	0.31-0.37	0.0-2.9	4.0-12	.32	.37			
	35-60	1.50-1.80	0.6-6	0.04-0.12	0.0-2.9	0.3-0.9	.10	.32			

Table 8.--Chemical Properties of the Soils  
(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
400: Anchorpark-----	0-1	---	15-25	4.5-5.5
	1-4	3.0-15	---	5.1-6.0
	4-9	0.0-10	---	5.6-6.5
	9-14	0.0-5.0	---	5.6-6.5
	14-60	1.0-5.0	---	6.1-7.0
401: Andic Humicryods-----	0-3	---	15-25	4.0-5.5
	3-5	---	5.0-15	5.1-6.0
	5-20	---	15-30	5.1-6.0
	20-60	3.0-5.0	---	5.6-6.5
Rock outcrop-----	---	---	---	---
402: Clam Gulch-----	0-4	---	20-30	4.0-5.0
	4-9	---	10-20	4.0-5.0
	9-14	---	5.0-15	5.1-5.5
	14-46	6.0-12	---	5.6-6.5
	46-60	6.0-12	---	5.6-6.5
403: Clam Gulch-----	0-4	---	20-30	4.0-5.0
	4-9	---	10-20	4.0-5.0
	9-14	---	5.0-15	5.1-5.5
	14-46	6.0-12	---	5.6-6.5
	46-60	6.0-12	---	5.6-6.5
Doroshin-----	0-43	---	20-30	4.5-5.5
	43-60	---	2.0-4.0	5.0-6.0
Jacobsen-----	0-8	---	25-35	4.5-5.5
	8-11	---	10-20	4.5-5.5
	11-14	6.0-12	---	5.1-6.0
	14-60	4.0-8.0	---	5.1-6.0
404: Cryosaprists, tidal flats---	0-9	0.0-5.0	---	7.9-8.4
	9-60	25-35	---	7.9-8.4
405: Cryorthents, silty-----	0-1	---	15-25	4.0-5.5
	1-60	1.0-5.0	---	6.1-6.5
406: Cryorthents, skeletal-----	0-60	1.0-5.0	---	5.7-7.0
Urban land-----	---	---	---	---
407: Cryorthents, skeletal-----	0-60	1.0-5.0	---	5.7-7.0
Urban land-----	---	---	---	---
408: Deception-----	0-2	---	15-25	4.0-5.5
	2-3	---	5.0-15	5.1-6.0
	3-6	---	5.0-15	5.1-6.0
	6-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
Cryorthents, skeletal-----	0-1	---	15-25	4.0-5.5
	1-60	1.0-5.0	---	5.7-7.0

Table 8.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
409: Deception-----	0-2	---	15-25	4.0-5.5
	2-3	---	5.0-15	5.1-6.0
	3-6	---	5.0-15	5.1-6.0
	6-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
Disappear-----	0-3	---	20-30	4.0-5.5
	3-8	---	25-35	4.0-5.5
	8-14	---	5.0-15	4.5-5.5
	14-51	6.0-12	---	5.6-6.0
	51-55	2.0-5.0	---	5.6-6.5
55-63	2.0-5.0	---	5.6-6.5	
410: Deception-----	0-2	---	15-25	4.0-5.5
	2-3	---	5.0-15	5.1-6.0
	3-6	---	5.0-15	5.1-6.0
	6-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
Estelle-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-18	---	5.0-15	5.1-6.0
	18-28	4.0-8.0	---	5.6-6.0
	28-60	3.0-5.0	---	5.6-6.5
Kichatna-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-11	---	5.0-15	5.1-6.0
	11-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
411: Deception-----	0-2	---	15-25	4.0-5.5
	2-3	---	5.0-15	5.1-6.0
	3-6	---	5.0-15	5.1-6.0
	6-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
Estelle-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-18	---	5.0-15	5.1-6.0
	18-28	4.0-8.0	---	5.6-6.0
	28-60	3.0-5.0	---	5.6-6.5
Kichatna-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-11	---	5.0-15	5.1-6.0
	11-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
412: Deception-----	0-2	---	15-25	4.0-5.5
	2-3	---	5.0-15	5.1-6.0
	3-6	---	5.0-15	5.1-6.0
	6-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
Estelle-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-18	---	5.0-15	5.1-6.0
	18-28	4.0-8.0	---	5.6-6.0
	28-60	3.0-5.0	---	5.6-6.5
Kichatna-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-11	---	5.0-15	5.1-6.0
	11-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5

Table 8.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
413:				
Deception-----	0-2	---	15-25	4.0-5.5
	2-3	---	5.0-15	5.1-6.0
	3-6	---	5.0-15	5.1-6.0
	6-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
Estelle-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-18	---	5.0-15	5.1-6.0
	18-28	4.0-8.0	---	5.6-6.0
	28-60	3.0-5.0	---	5.6-6.5
Kichatna-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-11	---	5.0-15	5.1-6.0
	11-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
414:				
Deception-----	0-2	---	15-25	4.0-5.5
	2-3	---	5.0-15	5.1-6.0
	3-6	---	5.0-15	5.1-6.0
	6-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
Estelle-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-18	---	5.0-15	5.1-6.0
	18-28	4.0-8.0	---	5.6-6.0
	28-60	3.0-5.0	---	5.6-6.5
Kichatna-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-11	---	5.0-15	5.1-6.0
	11-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
415:				
Deception-----	0-2	---	15-25	4.0-5.5
	2-3	---	5.0-15	5.1-6.0
	3-6	---	5.0-15	5.1-6.0
	6-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
Estelle-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-18	---	5.0-15	5.1-6.0
	18-28	4.0-8.0	---	5.6-6.0
	28-60	3.0-5.0	---	5.6-6.5
Kichatna-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-11	---	5.0-15	5.1-6.0
	11-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
416:				
Disappear-----	0-3	---	20-30	4.0-5.5
	3-8	---	25-35	4.0-5.5
	8-14	---	5.0-15	4.5-5.5
	14-51	6.0-12	---	5.6-6.0
	51-55	2.0-5.0	---	5.6-6.5
	55-63	2.0-5.0	---	5.6-6.5
Pioneer Peak-----	0-3	---	25-35	4.5-5.5
	3-5	---	5.0-15	5.1-6.0
	5-10	---	5.0-15	5.1-6.0
	10-25	---	5.0-15	5.1-6.0
	25-37	2.0-6.0	---	5.6-6.0
	37-60	1.0-3.0	---	6.1-6.5

Table 8.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
417: Doroshin-----	0-43 43-60	---	20-30 2.0-4.0	4.5-5.5 5.0-6.0
418: Dumps, landfill-----	---	---	---	---
419: Eklutna-----	0-2 2-60	---	15-25 ---	5.1-5.5 6.1-7.0
420: Haplocryods-----	0-3 3-5 5-8 8-24 24+	---	15-25 10-20 5.0-15 5.0-15 ---	4.5-5.8 5.1-6.0 5.1-6.0 5.1-6.0 ---
421: Histic Cryaquepts-----	0-9 9-20 20-35 35-60	---	20-30 10-20 5.0-19 ---	4.0-5.5 4.5-5.5 4.5-5.5 5.1-6.5
422: Histic Cryaquepts-----	0-9 9-20 20-35 35-60	---	20-30 10-20 5.0-19 ---	4.0-5.5 4.5-5.5 4.5-5.5 5.1-6.5
Hurdygurdy-----	0-5 5-8 8-18 18-60	---	5.0-9.0 10-20 15-30 3.0-5.0	4.5-5.0 5.1-5.5 5.1-5.5 5.6-6.5
423: Hurdygurdy-----	0-5 5-8 8-18 18-60	---	5.0-9.0 10-20 15-30 3.0-5.0	4.5-5.0 5.1-5.5 5.1-5.5 5.6-6.5
Siwash-----	0-4 4-5 5-14 14-21 21+	---	15-25 5.0-15 15-30 5.0-15 ---	4.0-5.5 5.1-5.5 5.1-5.5 5.1-5.5 ---
Rock outcrop-----	---	---	---	---
424: Icknuun, ponded-----	0-10 10-14 14-60	---	20-30 10-20 20-30	5.1-5.5 5.1-5.8 5.1-5.5
425: Jacobsen-----	0-8 8-11 11-14 14-60	---	25-35 10-20 6.0-12 4.0-8.0	4.5-5.5 4.5-5.5 5.1-6.0 5.1-6.0
Disappear-----	0-3 3-8 8-14 14-51 51-55 55-63	---	20-30 25-35 5.0-15 6.0-12 2.0-5.0 2.0-5.0	4.0-5.5 4.0-5.5 4.5-5.5 5.6-6.0 5.6-6.5 5.6-6.5
Doroshin, ponded-----	0-43 43-60	---	20-30 2.0-4.0	4.5-5.5 5.0-6.0

Table 8.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
426:				
Jacobsen-----	0-8	---	25-35	4.5-5.5
	8-11	---	10-20	4.5-5.5
	11-14	6.0-12	---	5.1-6.0
	14-60	4.0-8.0	---	5.1-6.0
Disappear-----	0-3	---	20-30	4.0-5.5
	3-8	---	25-35	4.0-5.5
	8-14	---	5.0-15	4.5-5.5
	14-51	6.0-12	---	5.6-6.0
	51-55	2.0-5.0	---	5.6-6.5
	55-63	2.0-5.0	---	5.6-6.5
Doroshin-----	0-43	---	20-30	4.5-5.5
	43-60	---	2.0-4.0	5.0-6.0
427:				
Jacobsen-----	0-8	---	25-35	4.5-5.5
	8-11	---	10-20	4.5-5.5
	11-14	6.0-12	---	5.1-6.0
	14-60	4.0-8.0	---	5.1-6.0
Disappear-----	0-3	---	20-30	4.0-5.5
	3-8	---	25-35	4.0-5.5
	8-14	---	5.0-15	4.5-5.5
	14-51	6.0-12	---	5.6-6.0
	51-55	2.0-5.0	---	5.6-6.5
	55-63	2.0-5.0	---	5.6-6.5
Doroshin-----	0-43	---	20-30	4.5-5.5
	43-60	---	2.0-4.0	5.0-6.0
428:				
Kashwitna-----	0-3	---	15-25	4.0-5.5
	3-5	---	5.0-15	5.1-6.0
	5-16	---	5.0-15	5.1-6.0
	16-18	2.0-8.0	---	5.6-6.5
	18-60	3.0-5.0	---	5.6-6.5
Kichatna-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-11	---	5.0-15	5.1-6.0
	11-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
429:				
Kashwitna-----	0-3	---	15-25	4.0-5.5
	3-5	---	5.0-15	5.1-6.0
	5-16	---	5.0-15	5.1-6.0
	16-18	2.0-8.0	---	5.6-6.5
	18-60	3.0-5.0	---	5.6-6.5
Kichatna-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-11	---	5.0-15	5.1-6.0
	11-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
430:				
Kashwitna-----	0-3	---	15-25	4.0-5.5
	3-5	---	5.0-15	5.1-6.0
	5-16	---	5.0-15	5.1-6.0
	16-18	2.0-8.0	---	5.6-6.5
	18-60	3.0-5.0	---	5.6-6.5
Kichatna-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-11	---	5.0-15	5.1-6.0
	11-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5

Table 8.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
431:				
Kashwitna-----	0-3	---	15-25	4.0-5.5
	3-5	---	5.0-15	5.1-6.0
	5-16	---	5.0-15	5.1-6.0
	16-18	2.0-8.0	---	5.6-6.5
	18-60	3.0-5.0	---	5.6-6.5
Kichatna-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-11	---	5.0-15	5.1-6.0
	11-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
432:				
Kashwitna-----	0-3	---	15-25	4.0-5.5
	3-5	---	5.0-15	5.1-6.0
	5-16	---	5.0-15	5.1-6.0
	16-18	2.0-8.0	---	5.6-6.5
	18-60	3.0-5.0	---	5.6-6.5
Kichatna-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-11	---	5.0-15	5.1-6.0
	11-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
433:				
Kashwitna-----	0-3	---	15-25	4.0-5.5
	3-5	---	5.0-15	5.1-6.0
	5-16	---	5.0-15	5.1-6.0
	16-18	2.0-8.0	---	5.6-6.5
	18-60	3.0-5.0	---	5.6-6.5
Kichatna-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-11	---	5.0-15	5.1-6.0
	11-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
434:				
Kichatna-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-11	---	5.0-15	5.1-6.0
	11-14	4.0-8.0	---	5.6-6.0
	14-60	3.0-5.0	---	5.6-6.5
Pioneer Peak-----	0-3	---	25-35	4.5-5.5
	3-5	---	5.0-15	5.1-6.0
	5-10	---	5.0-15	5.1-6.0
	10-25	---	5.0-15	5.1-6.0
	25-37	2.0-6.0	---	5.6-6.0
	37-60	1.0-3.0	---	6.1-6.5
Jacobsen-----	0-8	---	25-35	4.5-5.5
	8-11	---	10-20	4.5-5.5
	11-14	6.0-12	---	5.1-6.0
	14-60	4.0-8.0	---	5.1-6.0
435:				
Matsu-----	0-3	---	20-30	4.5-5.5
	3-6	---	5.0-15	5.1-6.0
	6-11	---	5.0-15	5.1-6.0
	11-15	---	10-20	5.1-6.0
	15-31	6.0-12	---	5.6-6.0
	31-60	6.0-12	---	5.6-6.0

Table 8.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
436:				
Matsu-----	0-3	---	20-30	4.5-5.5
	3-6	---	5.0-15	5.1-6.0
	6-11	---	5.0-15	5.1-6.0
	11-15	---	10-20	5.1-6.0
	15-31	6.0-12	---	5.6-6.0
	31-60	6.0-12	---	5.6-6.0
437:				
Moose River-----	0-5	---	20-30	4.5-5.5
	5-10	6.0-12	---	5.6-6.5
	10-50	6.0-12	---	6.1-7.0
	50-60	3.0-5.0	---	6.1-7.0
Niklason-----	0-1	---	20-30	4.5-5.5
	1-4	---	10-20	5.1-6.0
	4-28	6.0-12	---	5.6-6.5
	28-60	3.0-5.0	---	5.6-6.5
438:				
Moose River-----	0-5	---	20-30	4.5-5.5
	5-10	6.0-12	---	5.6-6.5
	10-50	6.0-12	---	6.1-7.0
	50-60	3.0-5.0	---	6.1-7.0
Niklason-----	0-1	---	20-30	4.5-5.5
	1-4	---	10-20	5.1-6.0
	4-28	6.0-12	---	5.6-6.5
	28-60	3.0-5.0	---	5.6-6.5
439:				
Nakochna-----	0-2	---	15-25	4.0-5.5
	2-4	---	10-20	5.0-5.6
	4-5	---	5.0-15	5.0-6.0
	5-14	---	15-30	5.1-6.0
	14+	---	---	---
Rock outcrop-----	---	---	---	---
440:				
Pioneer Peak-----	0-3	---	25-35	4.5-5.5
	3-5	---	5.0-15	5.1-6.0
	5-10	---	5.0-15	5.1-6.0
	10-25	---	5.0-15	5.1-6.0
	25-37	2.0-6.0	---	5.6-6.0
	37-60	1.0-3.0	---	6.1-6.5
441:				
Pioneer Peak-----	0-3	---	25-35	4.5-5.5
	3-5	---	5.0-15	5.1-6.0
	5-10	---	5.0-15	5.1-6.0
	10-25	---	5.0-15	5.1-6.0
	25-37	2.0-6.0	---	5.6-6.0
	37-60	1.0-3.0	---	6.1-6.5
442:				
Pioneer Peak-----	0-3	---	25-35	4.5-5.5
	3-5	---	5.0-15	5.1-6.0
	5-10	---	5.0-15	5.1-6.0
	10-25	---	5.0-15	5.1-6.0
	25-37	2.0-6.0	---	5.6-6.0
	37-60	1.0-3.0	---	6.1-6.5
Jacobsen-----	0-8	---	25-35	4.5-5.5
	8-11	---	10-20	4.5-5.5
	11-14	6.0-12	---	5.1-6.0
	14-60	4.0-8.0	---	5.1-6.0
Doroshin-----	0-43	---	20-30	4.5-5.5
	43-60	---	2.0-4.0	5.0-6.0

Table 8.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
443: Pits, gravel-----	---	---	---	---
444: Riverwash-----	---	---	---	---
Niklavar, frequently flooded-	0-1	1.0-5.0	---	5.1-6.0
	1-30	1.0-5.0	---	5.6-6.5
	30-60	1.0-5.0	---	5.6-6.5
445: Rock outcrop-----	---	---	---	---
446: Salamatof-----	0-60	---	5.0-9.0	3.5-4.4
447: Smithfha-----	0-3	---	15-25	4.5-5.5
	3-4	10-20	---	5.6-6.5
	4-18	10-20	---	5.6-6.5
	18-19	10-20	---	5.6-6.5
	19-29	5.0-10	---	5.6-6.5
	29-60	1.0-5.0	---	5.6-6.5
448: Smithfha-----	0-3	---	15-25	4.5-5.5
	3-4	10-20	---	5.6-6.5
	4-18	10-20	---	5.6-6.5
	18-19	10-20	---	5.6-6.5
	19-29	5.0-10	---	5.6-6.5
	29-60	1.0-5.0	---	5.6-6.5
449: Smithfha-----	0-3	---	15-25	4.5-5.5
	3-4	10-20	---	5.6-6.5
	4-18	10-20	---	5.6-6.5
	18-19	10-20	---	5.6-6.5
	19-29	5.0-10	---	5.6-6.5
	29-60	1.0-5.0	---	5.6-6.5
450: Smithfha-----	0-3	---	15-25	4.5-5.5
	3-4	10-20	---	5.6-6.5
	4-18	10-20	---	5.6-6.5
	18-19	10-20	---	5.6-6.5
	19-29	5.0-10	---	5.6-6.5
	29-60	1.0-5.0	---	5.6-6.5
451: Smithfha-----	0-3	---	15-25	4.5-5.5
	3-4	10-20	---	5.6-6.5
	4-18	10-20	---	5.6-6.5
	18-19	10-20	---	5.6-6.5
	19-29	5.0-10	---	5.6-6.5
	29-60	1.0-5.0	---	5.6-6.5
Anchorpark-----	0-1	---	15-25	4.5-5.5
	1-4	3.0-15	---	5.1-6.0
	4-9	0.0-10	---	5.6-6.5
	9-14	0.0-5.0	---	5.6-6.5
	14-60	1.0-5.0	---	6.1-7.0
452: Susitna-----	0-3	---	10-20	4.5-5.5
	3-45	6.0-12	---	5.1-6.0
	45-60	3.0-5.0	---	5.1-6.0

Table 8.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
453: Susivar-----	0-3	15-20	---	5.1-6.0
	3-60	1.0-5.0	---	5.1-6.0
Niklavar-----	0-1	1.0-5.0	---	5.1-6.0
	1-30	1.0-5.0	---	5.6-6.5
	30-60	1.0-5.0	---	5.6-6.5
454: Susivar-----	0-3	15-20	---	5.1-6.0
	3-60	1.0-5.0	---	5.1-6.0
Moose River-----	0-5	---	20-30	4.5-5.5
	5-10	6.0-12	---	5.6-6.5
	10-50	6.0-12	---	6.1-7.0
	50-60	3.0-5.0	---	6.1-7.0
455: Talkeetna-----	0-3	---	5.0-9.0	4.5-5.0
	3-6	---	10-20	5.1-6.0
	6-7	---	10-20	5.1-6.0
	7-18	---	15-30	5.1-6.0
	18-60	3.0-5.0	---	5.6-6.5
Chugach-----	0-3	---	15-25	4.0-5.5
	3-4	---	5.0-15	5.1-6.0
	4-8	---	15-30	5.1-6.0
	8-10	---	5.0-15	5.1-6.0
	10-60	3.0-5.0	---	5.6-6.5
Deneka-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-17	---	15-30	5.1-6.0
	17-22	2.0-8.0	---	5.6-6.5
	22+	---	---	---
456: Talkeetna-----	0-3	---	5.0-9.0	4.5-5.0
	3-6	---	10-20	5.1-6.0
	6-7	---	10-20	5.1-6.0
	7-18	---	15-30	5.1-6.0
	18-60	3.0-5.0	---	5.6-6.5
Chugach-----	0-3	---	15-25	4.0-5.5
	3-4	---	5.0-15	5.1-6.0
	4-8	---	15-30	5.1-6.0
	8-10	---	5.0-15	5.1-6.0
	10-60	3.0-5.0	---	5.6-6.5
Deneka-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-17	---	15-30	5.1-6.0
	17-22	2.0-8.0	---	5.6-6.5
	22+	---	---	---
457: Talkeetna-----	0-3	---	5.0-9.0	4.5-5.0
	3-6	---	10-20	5.1-6.0
	6-7	---	10-20	5.1-6.0
	7-18	---	15-30	5.1-6.0
	18-60	3.0-5.0	---	5.6-6.5

Table 8.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
457:				
Chugach-----	0-3	---	15-25	4.0-5.5
	3-4	---	5.0-15	5.1-6.0
	4-8	---	15-30	5.1-6.0
	8-10	---	5.0-15	5.1-6.0
	10-60	3.0-5.0	---	5.6-6.5
Deneka-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-17	---	15-30	5.1-6.0
	17-22	2.0-8.0	---	5.6-6.5
	22+	---	---	---
458:				
Talkeetna-----	0-3	---	5.0-9.0	4.5-5.0
	3-6	---	10-20	5.1-6.0
	6-7	---	10-20	5.1-6.0
	7-18	---	15-30	5.1-6.0
	18-60	3.0-5.0	---	5.6-6.5
Chugach-----	0-3	---	15-25	4.0-5.5
	3-4	---	5.0-15	5.1-6.0
	4-8	---	15-30	5.1-6.0
	8-10	---	5.0-15	5.1-6.0
	10-60	3.0-5.0	---	5.6-6.5
Deneka-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-17	---	15-30	5.1-6.0
	17-22	2.0-8.0	---	5.6-6.5
	22+	---	---	---
459:				
Talkeetna-----	0-3	---	5.0-9.0	4.5-5.0
	3-6	---	10-20	5.1-6.0
	6-7	---	10-20	5.1-6.0
	7-18	---	15-30	5.1-6.0
	18-60	3.0-5.0	---	5.6-6.5
Chugach-----	0-3	---	15-25	4.0-5.5
	3-4	---	5.0-15	5.1-6.0
	4-8	---	15-30	5.1-6.0
	8-10	---	5.0-15	5.1-6.0
	10-60	3.0-5.0	---	5.6-6.5
Histic Cryaquepts-----	0-9	---	20-30	4.0-5.5
	9-20	---	10-20	4.5-5.5
	20-35	---	5.0-19	4.5-5.5
	35-60	2.0-10	---	5.1-6.5
460:				
Talkeetna, cool-----	0-3	---	5.0-9.0	4.5-5.0
	3-6	---	10-20	5.1-6.0
	6-7	---	10-20	5.1-6.0
	7-18	---	15-30	5.1-6.0
	18-60	3.0-5.0	---	5.6-6.5
Chugach, cool-----	0-3	---	15-25	4.0-5.5
	3-4	---	5.0-15	5.1-6.0
	4-8	---	15-30	5.1-6.0
	8-10	---	5.0-15	5.1-6.0
	10-60	3.0-5.0	---	5.6-6.5
Histic Cryaquepts-----	0-9	---	20-30	4.0-5.5
	9-20	---	10-20	4.5-5.5
	20-35	---	5.0-19	4.5-5.5
	35-60	2.0-10	---	5.1-6.5

Table 8.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
		meq/100 g	meq/100 g	pH
461:	In			
Talkeetna-----	0-3	---	5.0-9.0	4.5-5.0
	3-6	---	10-20	5.1-6.0
	6-7	---	10-20	5.1-6.0
	7-18	---	15-30	5.1-6.0
	18-60	3.0-5.0	---	5.6-6.5
Deneka-----	0-2	---	15-25	4.0-5.5
	2-4	---	5.0-15	5.1-6.0
	4-17	---	15-30	5.1-6.0
	17-22	2.0-8.0	---	5.6-6.5
	22+	---	---	---
Rock outcrop-----	---	---	---	---
462:				
Typic Cryaquepts, tidal flats	0-16	6.0-12	---	7.5-8.4
	16-21	6.0-12	---	7.5-8.4
	21-60	6.0-12	---	7.5-8.4
Typic Cryaquepts, beach terrace-----	0-30	2.0-10	---	7.5-8.4
	30-38	2.0-10	---	7.5-8.4
	38-60	2.0-10	---	7.5-8.4
463:				
Water-----	---	---	---	---
464:				
Water, saline-----	---	---	---	---
465:				
Whitsol-----	0-2	---	15-25	4.5-5.5
	2-4	---	10-20	5.1-6.0
	4-7	---	5.0-15	5.1-6.0
	7-17	---	5.0-15	5.1-6.0
	17-35	5.0-9.0	---	5.1-6.5
	35-60	3.0-5.0	---	5.6-6.5
466:				
Whitsol-----	0-2	---	15-25	4.5-5.5
	2-4	---	10-20	5.1-6.0
	4-7	---	5.0-15	5.1-6.0
	7-17	---	5.0-15	5.1-6.0
	17-35	5.0-9.0	---	5.1-6.5
	35-60	3.0-5.0	---	5.6-6.5
467:				
Whitsol-----	0-2	---	15-25	4.5-5.5
	2-4	---	10-20	5.1-6.0
	4-7	---	5.0-15	5.1-6.0
	7-17	---	5.0-15	5.1-6.0
	17-35	5.0-9.0	---	5.1-6.5
	35-60	3.0-5.0	---	5.6-6.5
468:				
Whitsol-----	0-2	---	15-25	4.5-5.5
	2-4	---	10-20	5.1-6.0
	4-7	---	5.0-15	5.1-6.0
	7-17	---	5.0-15	5.1-6.0
	17-35	5.0-9.0	---	5.1-6.5
	35-60	3.0-5.0	---	5.6-6.5
469:				
Whitsol-----	0-2	---	15-25	4.5-5.5
	2-4	---	10-20	5.1-6.0
	4-7	---	5.0-15	5.1-6.0
	7-17	---	5.0-15	5.1-6.0
	17-35	5.0-9.0	---	5.1-6.5
	35-60	3.0-5.0	---	5.6-6.5

Table 9.--Water Features

(See text for definitions of terms used in this table. Upper limit, Lower limit, and Surface water depth are in feet. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Wet soil			Ponding			Flooding	
			Upper limit	Lower limit	Water table kind	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft.	Ft.		Ft.				
400: Anchorpark-----	B	Jan-Dec	---	---	---	---	---	None	---	None
401: Andic Humicryods-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---
402: Clam Gulch-----	D	Jan	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.0-1.5	>6.0	Regional	---	---	None	---	None
		Jun	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	3.0-4.0	>6.0	Regional	---	---	None	---	None
		Sep	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Oct	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.0-2.0	>6.0	Regional	---	---	None	---	None
403: Clam Gulch-----	D	Jan	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.0-1.5	>6.0	Regional	---	---	None	---	None
		Jun	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	3.0-4.0	>6.0	Regional	---	---	None	---	None
		Sep	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Oct	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.0-2.0	>6.0	Regional	---	---	None	---	None
Doroshin-----	D	Jan-Dec	0.0-0.3	>6.0	Regional	---	---	None	---	None
Jacobsen-----	D	Jan	0.5-1.5	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Apr-May	0.0-1.0	>6.0	Regional	---	---	None	---	None
		Jun	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	2.5-4.0	>6.0	Regional	---	---	None	---	None
		Sep	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Oct	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Nov-Dec	0.5-1.5	>6.0	Regional	---	---	None	---	None
404: Cryosaprists, tidal flats-----	D	Jan-Dec	0.0-0.2	>6.0	Regional	---	---	None	Very brief	Very frequent
405: Cryorthents, silty---	B	Jan-Dec	---	---	---	---	---	None	---	None
406: Cryorthents, skeletal-	B	Jan-Dec	---	---	---	---	---	None	---	None
Urban land-----	---	---	---	---	---	---	---	---	---	---
407: Cryorthents, skeletal-	B	Jan-Dec	---	---	---	---	---	None	---	None
Urban land-----	---	---	---	---	---	---	---	---	---	---
408: Deception-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Cryorthents, skeletal-	B	Jan-Dec	---	---	---	---	---	None	---	None

Table 9.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Wet soil			Ponding			Flooding	
			Upper limit	Lower limit	Water table kind	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft.	Ft.		Ft.				
409: Deception-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Disappear-----	D	Jan	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.0-1.5	>6.0	Regional	---	---	None	---	None
		Jun	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	3.0-4.0	>6.0	Regional	---	---	None	---	None
		Sep	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Oct	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.0-2.0	>6.0	Regional	---	---	None	---	None
410: Deception-----	B	Jan-Dec	---	---	---	---	None	---	None	
Estelle-----	B	Jan-Dec	---	---	---	---	None	---	None	
Kichatna-----	B	Jan-Dec	---	---	---	---	None	---	None	
411: Deception-----	B	Jan-Dec	---	---	---	---	None	---	None	
Estelle-----	B	Jan-Dec	---	---	---	---	None	---	None	
Kichatna-----	B	Jan-Dec	---	---	---	---	None	---	None	
412: Deception-----	B	Jan-Dec	---	---	---	---	None	---	None	
Estelle-----	B	Jan-Dec	---	---	---	---	None	---	None	
Kichatna-----	B	Jan-Dec	---	---	---	---	None	---	None	
413: Deception-----	B	Jan-Dec	---	---	---	---	None	---	None	
Estelle-----	B	Jan-Dec	---	---	---	---	None	---	None	
Kichatna-----	B	Jan-Dec	---	---	---	---	None	---	None	
414: Deception-----	B	Jan-Dec	---	---	---	---	None	---	None	
Estelle-----	B	Jan-Dec	---	---	---	---	None	---	None	
Kichatna-----	B	Jan-Dec	---	---	---	---	None	---	None	
415: Deception-----	B	Jan-Dec	---	---	---	---	None	---	None	
Estelle-----	B	Jan-Dec	---	---	---	---	None	---	None	
Kichatna-----	B	Jan-Dec	---	---	---	---	None	---	None	
416: Disappear-----	D	Jan	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.0-1.5	>6.0	Regional	---	---	None	---	None
		Jun	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	3.0-4.0	>6.0	Regional	---	---	None	---	None
		Sep	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Oct	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.0-2.0	>6.0	Regional	---	---	None	---	None

Table 9.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Wet soil			Ponding			Flooding	
			Upper limit	Lower limit	Water table kind	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft.	Ft.		Ft.				
416: Pioneer Peak-----	C	Jan	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	2.0-3.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Jun	2.5-3.5	>6.0	Regional	---	---	None	---	None
		Jul-Aug	4.0-5.0	>6.0	Regional	---	---	None	---	None
		Sep	2.5-3.5	>6.0	Regional	---	---	None	---	None
		Oct	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.5-3.0	>6.0	Regional	---	---	None	---	None
417: Doroshin-----	D	Jan-Dec	0.0-0.3	>6.0	Regional	---	---	Frequent	---	None
418: Dumps, landill	D	---	---	---	---	---	---	---	---	---
419: Eklutna-----	A	Jan-Dec	---	---	---	---	---	None	---	None
420: Haplocryods-----	C	Jan-Dec	---	---	---	---	---	None	---	None
421: Histic Cryaquepts-----	D	Jan	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.0-1.5	>6.0	Regional	---	---	None	---	None
		Jun	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	3.0-4.0	>6.0	Regional	---	---	None	---	None
		Sep	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Oct	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.0-2.0	>6.0	Regional	---	---	None	---	None
422: Histic Cryaquepts-----	D	Jan	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.0-1.5	>6.0	Regional	---	---	None	---	None
		Jun	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	3.0-4.0	>6.0	Regional	---	---	None	---	None
		Sep	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Oct	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.0-2.0	>6.0	Regional	---	---	None	---	None
Hurdygurdy-----	B	Jan-Dec	---	---	---	---	---	None	---	None
423: Hurdygurdy-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Siwash-----	C	Jan-Dec	---	---	---	---	---	None	---	None
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---
424: Icknuun, ponded-----	D	Jan-May	0.0-0.7	>6.0	Regional	0.2-1.0	Long	Frequent	---	None
		Jun	0.0-0.7	>6.0	Regional	0.0-0.5	Long	Frequent	---	None
		Jul-Aug	0.0-0.7	>6.0	Regional	0.0-0.3	Long	Frequent	---	None
		Sep	0.0-0.7	>6.0	Regional	0.0-0.5	Long	Frequent	---	None
		Oct-Dec	0.0-0.7	>6.0	Regional	0.2-1.0	Long	Frequent	---	None
425: Jacobsen-----	D	Jan	0.5-1.5	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Apr-May	0.0-1.0	>6.0	Regional	---	---	None	---	None
		Jun	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	2.5-4.0	>6.0	Regional	---	---	None	---	None
		Sep	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Oct	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Nov-Dec	0.5-1.5	>6.0	Regional	---	---	None	---	None

Table 9.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Wet soil			Ponding			Flooding	
			Upper limit	Lower limit	Water table kind	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft.	Ft.		Ft.				
425: Disappear-----	D	Jan	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.0-1.5	>6.0	Regional	---	---	None	---	None
		Jun	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	3.0-4.0	>6.0	Regional	---	---	None	---	None
		Sep	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Oct	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.0-2.0	>6.0	Regional	---	---	None	---	None
Doroshin, ponded-----	D	Jan-May	0.0-0.3	>6.0	Regional	0.2-1.0	Long	Frequent	---	None
		Jun	0.0-0.3	>6.0	Regional	0.0-0.5	Long	Frequent	---	None
		Jul-Aug	0.0-0.3	>6.0	Regional	0.0-0.3	Long	Frequent	---	None
		Sep	0.0-0.3	>6.0	Regional	0.0-0.5	Long	Frequent	---	None
		Oct-Dec	0.0-0.3	>6.0	Regional	0.2-1.0	Long	Frequent	---	None
426: Jacobsen-----	D	Jan	0.5-1.5	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Apr-May	0.0-1.0	>6.0	Regional	---	---	None	---	None
		Jun	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	2.5-4.0	>6.0	Regional	---	---	None	---	None
		Sep	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Oct	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Nov-Dec	0.5-1.5	>6.0	Regional	---	---	None	---	None
Disappear-----	D	Jan	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.0-1.5	>6.0	Regional	---	---	None	---	None
		Jun	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	3.0-4.0	>6.0	Regional	---	---	None	---	None
		Sep	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Oct	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.0-2.0	>6.0	Regional	---	---	None	---	None
Doroshin-----	D	Jan-Dec	0.0-0.3	>6.0	Regional	---	---	None	---	None
427: Jacobsen-----	D	Jan	0.5-1.5	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Apr-May	0.0-1.0	>6.0	Regional	---	---	None	---	None
		Jun	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	2.5-4.0	>6.0	Regional	---	---	None	---	None
		Sep	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Oct	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Nov-Dec	0.5-1.5	>6.0	Regional	---	---	None	---	None
Disappear-----	D	Jan	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.0-1.5	>6.0	Regional	---	---	None	---	None
		Jun	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	3.0-4.0	>6.0	Regional	---	---	None	---	None
		Sep	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Oct	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.0-2.0	>6.0	Regional	---	---	None	---	None
Doroshin-----	D	Jan-Dec	0.0-0.3	>6.0	Regional	---	---	None	---	None
428: Kashwitna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Kichatna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
429: Kashwitna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Kichatna-----	B	Jan-Dec	---	---	---	---	---	None	---	None

Table 9.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Wet soil			Ponding			Flooding	
			Upper limit	Lower limit	Water table kind	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft.	Ft.		Ft.				
430:										
Kashwitna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Kichatna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
431:										
Kashwitna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Kichatna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
432:										
Kashwitna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Kichatna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
433:										
Kashwitna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Kichatna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
434:										
Kichatna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Pioneer Peak-----	C	Jan	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	2.0-3.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Jun	2.5-3.5	>6.0	Regional	---	---	None	---	None
		Jul-Aug	4.0-5.0	>6.0	Regional	---	---	None	---	None
		Sep	2.5-3.5	>6.0	Regional	---	---	None	---	None
		Oct	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.5-3.0	>6.0	Regional	---	---	None	---	None
Jacobsen-----	D	Jan	0.5-1.5	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Apr-May	0.0-1.0	>6.0	Regional	---	---	None	---	None
		Jun	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	2.5-4.0	>6.0	Regional	---	---	None	---	None
		Sep	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Oct	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Nov-Dec	0.5-1.5	>6.0	Regional	---	---	None	---	None
435:										
Matsu-----	C	Jan	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	2.0-3.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Jun	2.5-3.5	>6.0	Regional	---	---	None	---	None
		Jul-Aug	4.0-5.0	>6.0	Regional	---	---	None	---	None
		Sep	2.5-3.5	>6.0	Regional	---	---	None	---	None
		Oct	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.5-3.0	>6.0	Regional	---	---	None	---	None
436:										
Matsu-----	C	Jan	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	2.0-3.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Jun	2.5-3.5	>6.0	Regional	---	---	None	---	None
		Jul-Aug	4.0-5.0	>6.0	Regional	---	---	None	---	None
		Sep	2.5-3.5	>6.0	Regional	---	---	None	---	None
		Oct	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.5-3.0	>6.0	Regional	---	---	None	---	None
437:										
Moose River-----	D	Jan	0.5-1.5	>6.0	Regional	---	---	None	---	---
		Feb-Mar	1.0-2.0	>6.0	Regional	---	---	None	---	---
		Apr-May	0.0-1.0	>6.0	Regional	---	---	None	Brief	Frequent
		Jun	1.0-2.0	>6.0	Regional	---	---	None	---	---
		Jul	2.5-4.0	>6.0	Regional	---	---	None	---	---
		Aug	2.5-4.0	>6.0	Regional	---	---	None	Brief	Frequent
		Sep	1.5-2.5	>6.0	Regional	---	---	None	Brief	Frequent
		Oct	1.0-2.0	>6.0	Regional	---	---	None	---	---
		Nov-Dec	0.5-1.5	>6.0	Regional	---	---	None	---	---

Table 9.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Wet soil			Ponding			Flooding	
			Upper limit	Lower limit	Water table kind	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft.	Ft.		Ft.				
437: Niklason-----	B	Jan	1.5-2.5	>6.0	Regional	---	---	None	---	---
		Feb-Mar	2.0-3.5	>6.0	Regional	---	---	None	---	---
		Apr-May	1.5-2.5	>6.0	Regional	---	---	None	Brief	Frequent
		Jun	2.0-4.0	>6.0	Regional	---	---	None	---	---
		Jul	4.0-5.0	>6.0	Regional	---	---	None	---	---
		Aug	4.0-5.0	>6.0	Regional	---	---	None	Brief	Frequent
		Sep	2.5-3.5	>6.0	Regional	---	---	None	Brief	Frequent
		Oct	2.0-3.0	>6.0	Regional	---	---	None	---	---
		Nov-Dec	1.5-2.5	>6.0	Regional	---	---	None	---	---
438: Moose River-----	D	Jan	0.5-1.5	>6.0	Regional	---	---	None	---	---
		Feb-Mar	1.0-2.0	>6.0	Regional	---	---	None	---	---
		Apr-May	0.0-1.0	>6.0	Regional	---	---	None	Brief	Occasional
		Jun	1.0-2.0	>6.0	Regional	---	---	None	---	---
		Jul	2.5-4.0	>6.0	Regional	---	---	None	---	---
		Aug	2.5-4.0	>6.0	Regional	---	---	None	Brief	Occasional
		Sep	1.5-2.5	>6.0	Regional	---	---	None	Brief	Occasional
		Oct	1.0-2.0	>6.0	Regional	---	---	None	---	---
		Nov-Dec	0.5-1.5	>6.0	Regional	---	---	None	---	---
Niklason-----	B	Jan	1.5-2.5	>6.0	Regional	---	---	None	---	---
		Feb-Mar	2.0-3.5	>6.0	Regional	---	---	None	---	---
		Apr-May	1.5-2.5	>6.0	Regional	---	---	None	Brief	Occasional
		Jun	2.0-4.0	>6.0	Regional	---	---	None	---	---
		Jul	4.0-5.0	>6.0	Regional	---	---	None	---	---
		Aug	4.0-5.0	>6.0	Regional	---	---	None	Brief	Occasional
		Sep	2.5-3.5	>6.0	Regional	---	---	None	Brief	Occasional
		Oct	2.0-3.0	>6.0	Regional	---	---	None	---	---
		Nov-Dec	1.5-2.5	>6.0	Regional	---	---	None	---	---
439: Nakochna-----	D	Jan-Dec	---	---	---	---	---	None	---	None
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---
440: Pioneer Peak-----	C	Jan	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	2.0-3.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Jun	2.5-3.5	>6.0	Regional	---	---	None	---	None
		Jul-Aug	4.0-5.0	>6.0	Regional	---	---	None	---	None
		Sep	2.5-3.5	>6.0	Regional	---	---	None	---	None
		Oct	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.5-3.0	>6.0	Regional	---	---	None	---	None
441: Pioneer Peak-----	C	Jan	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	2.0-3.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Jun	2.5-3.5	>6.0	Regional	---	---	None	---	None
		Jul-Aug	4.0-5.0	>6.0	Regional	---	---	None	---	None
		Sep	2.5-3.5	>6.0	Regional	---	---	None	---	None
		Oct	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.5-3.0	>6.0	Regional	---	---	None	---	None
442: Pioneer Peak-----	C	Jan	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	2.0-3.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Jun	2.5-3.5	>6.0	Regional	---	---	None	---	None
		Jul-Aug	4.0-5.0	>6.0	Regional	---	---	None	---	None
		Sep	2.5-3.5	>6.0	Regional	---	---	None	---	None
		Oct	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.5-3.0	>6.0	Regional	---	---	None	---	None

Table 9.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Wet soil			Ponding			Flooding	
			Upper limit	Lower limit	Water table kind	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft.	Ft.		Ft.				
442: Jacobsen-----	D	Jan	0.5-1.5	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Apr-May	0.0-1.0	>6.0	Regional	---	---	None	---	None
		Jun	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	2.5-4.0	>6.0	Regional	---	---	None	---	None
		Sep	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Oct	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Nov-Dec	0.5-1.5	>6.0	Regional	---	---	None	---	None
Doroshin-----	D	Jan-Dec	0.0-0.3	>6.0	Regional	---	---	None	---	None
443: Pits, gravel-----	D	Jan-Dec	---	---	---	---	---	None	---	None
444: Riverwash-----	---	Jan-Dec	---	---	---	---	---	---	Long	Frequent
Niklavar, frequently flooded-----	D	Jan	1.0-2.0	>6.0	Regional	---	---	None	---	---
		Feb-Mar	1.5-2.5	>6.0	Regional	---	---	None	---	---
		Apr-May	1.0-1.5	>6.0	Regional	---	---	None	Long	Frequent
		Jun	1.5-3.0	>6.0	Regional	---	---	None	---	---
		Jul	3.0-4.0	>6.0	Regional	---	---	None	---	---
		Aug	3.0-4.0	>6.0	Regional	---	---	None	Long	Frequent
		Sep	2.0-3.0	>6.0	Regional	---	---	None	Long	Frequent
		Oct	1.5-2.5	>6.0	Regional	---	---	None	---	---
		Nov-Dec	1.0-2.0	>6.0	Regional	---	---	None	---	---
445: Rock outcrop-----	---	---	---	---	---	---	---	---	---	---
446: Salamatof-----	D	Jan-May	0.0-0.3	>6.0	Regional	0.2-1.0	Long	Frequent	---	None
		Jun	0.0-0.3	>6.0	Regional	0.0-0.5	Long	Frequent	---	None
		Jul-Aug	0.0-0.3	>6.0	Regional	0.0-0.3	Long	Frequent	---	None
		Sep	0.0-0.3	>6.0	Regional	0.0-0.5	Long	Frequent	---	None
		Oct-Dec	0.0-0.3	>6.0	Regional	0.2-1.0	Long	Frequent	---	None
447: Smithfha-----	B	Jan-Dec	---	---	---	---	---	None	---	None
448: Smithfha-----	B	Jan-Dec	---	---	---	---	---	None	---	None
449: Smithfha-----	B	Jan-Dec	---	---	---	---	---	None	---	None
450: Smithfha-----	B	Jan-Dec	---	---	---	---	---	None	---	None
451: Smithfha-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Anchorpark-----	B	Jan-Dec	---	---	---	---	---	None	---	None
452: Susitna-----	B	Jan-Mar	---	---	---	---	---	None	---	---
		Apr-May	---	---	---	---	---	None	---	Rare
		Jun-Jul	---	---	---	---	---	None	---	---
		Aug-Sep	---	---	---	---	---	None	---	Rare
		Oct-Dec	---	---	---	---	---	None	---	---

Table 9.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Wet soil			Ponding			Flooding	
			Upper limit	Lower limit	Water table kind	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft.	Ft.		Ft.				
453: Susivar-----	C	Jan	1.5-3.0	>6.0	Regional	---	---	None	---	---
		Feb-Mar	2.0-3.5	>6.0	Regional	---	---	None	---	---
		Apr-May	1.5-2.5	>6.0	Regional	---	---	None	Brief	Occasional
		Jun	2.5-3.5	>6.0	Regional	---	---	None	---	---
		Jul	4.0-5.0	>6.0	Regional	---	---	None	---	---
		Aug	4.0-5.0	>6.0	Regional	---	---	None	Brief	Occasional
		Sep	2.5-3.5	>6.0	Regional	---	---	None	Brief	Occasional
		Oct	2.0-3.0	>6.0	Regional	---	---	None	---	---
		Nov-Dec	1.5-3.0	>6.0	Regional	---	---	None	---	---
Niklavar-----	D	Jan	1.0-2.0	>6.0	Regional	---	---	None	---	---
		Feb-Mar	1.5-2.5	>6.0	Regional	---	---	None	---	---
		Apr-May	1.0-1.5	>6.0	Regional	---	---	None	Brief	Occasional
		Jun	1.5-3.0	>6.0	Regional	---	---	None	---	---
		Jul	3.0-4.0	>6.0	Regional	---	---	None	---	---
		Aug	3.0-4.0	>6.0	Regional	---	---	None	Brief	Occasional
		Sep	2.0-3.0	>6.0	Regional	---	---	None	Brief	Occasional
		Oct	1.5-2.5	>6.0	Regional	---	---	None	---	---
		Nov-Dec	1.0-2.0	>6.0	Regional	---	---	None	---	---
454: Susivar-----	C	Jan	1.5-3.0	>6.0	Regional	---	---	None	---	---
		Feb-Mar	2.0-3.5	>6.0	Regional	---	---	None	---	---
		Apr-May	1.5-2.5	>6.0	Regional	---	---	None	Brief	Occasional
		Jun	2.5-3.5	>6.0	Regional	---	---	None	---	---
		Jul	4.0-5.0	>6.0	Regional	---	---	None	---	---
		Aug	4.0-5.0	>6.0	Regional	---	---	None	Brief	Occasional
		Sep	2.5-3.5	>6.0	Regional	---	---	None	Brief	Occasional
		Oct	2.0-3.0	>6.0	Regional	---	---	None	---	---
		Nov-Dec	1.5-3.0	>6.0	Regional	---	---	None	---	---
Moose River-----	D	Jan	0.5-1.5	>6.0	Regional	---	---	None	---	---
		Feb-Mar	1.0-2.0	>6.0	Regional	---	---	None	---	---
		Apr-May	0.0-1.0	>6.0	Regional	---	---	None	Brief	Occasional
		Jun	1.0-2.0	>6.0	Regional	---	---	None	---	---
		Jul	2.5-4.0	>6.0	Regional	---	---	None	---	---
		Aug	2.5-4.0	>6.0	Regional	---	---	None	Brief	Occasional
		Sep	1.5-2.5	>6.0	Regional	---	---	None	Brief	Occasional
		Oct	1.0-2.0	>6.0	Regional	---	---	None	---	---
		Nov-Dec	0.5-1.5	>6.0	Regional	---	---	None	---	---
455: Talkeetna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Chugach-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Deneka-----	C	Jan-Dec	---	---	---	---	---	None	---	None
456: Talkeetna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Chugach-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Deneka-----	C	Jan-Dec	---	---	---	---	---	None	---	None
457: Talkeetna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Chugach-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Deneka-----	C	Jan-Dec	---	---	---	---	---	None	---	None
458: Talkeetna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Chugach-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Deneka-----	C	Jan-Dec	---	---	---	---	---	None	---	None

Table 9.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Wet soil			Ponding			Flooding	
			Upper limit	Lower limit	Water table kind	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft.	Ft.		Ft.				
459: Talkeetna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Chugach-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Histic Cryaquepts-----	D	Jan	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.0-1.5	>6.0	Regional	---	---	None	---	None
		Jun	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	3.0-4.0	>6.0	Regional	---	---	None	---	None
		Sep	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Oct	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.0-2.0	>6.0	Regional	---	---	None	---	None
460: Talkeetna, cool-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Chugach, cool-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Histic Cryaquepts-----	D	Jan	1.0-2.0	>6.0	Regional	---	---	None	---	None
		Feb-Mar	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Apr-May	1.0-1.5	>6.0	Regional	---	---	None	---	None
		Jun	1.5-3.0	>6.0	Regional	---	---	None	---	None
		Jul-Aug	3.0-4.0	>6.0	Regional	---	---	None	---	None
		Sep	2.0-3.0	>6.0	Regional	---	---	None	---	None
		Oct	1.5-2.5	>6.0	Regional	---	---	None	---	None
		Nov-Dec	1.0-2.0	>6.0	Regional	---	---	None	---	None
461: Talkeetna-----	B	Jan-Dec	---	---	---	---	---	None	---	None
Deneka-----	C	Jan-Dec	---	---	---	---	---	None	---	None
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---
462: Typic Cryaquents, tidal flats-----	D	Jan-Dec	0.0-0.3	>6.0	Regional	---	---	None	Very brief	Very frequent
Typic Cryaquepts, beach terrace-----	D	Jan-Dec	0.0-1.0	>6.0	Regional	---	---	None	---	Rare
463: Water-----	---	---	---	---	---	---	---	---	---	---
464: Water, saline-----	---	---	---	---	---	---	---	---	---	---
465: Whitsol-----	B	Jan-Dec	---	---	---	---	---	None	---	None
466: Whitsol-----	B	Jan-Dec	---	---	---	---	---	None	---	None
467: Whitsol-----	B	Jan-Dec	---	---	---	---	---	None	---	None
468: Whitsol-----	B	Jan-Dec	---	---	---	---	---	None	---	None
469: Whitsol-----	B	Jan-Dec	---	---	---	---	---	None	---	None

Table 10.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
400: Anchorpark-----	none	In ---	---	In ---	In ---	Low	Moderate	Moderate
401: Andic Humicryods-----	Bedrock (lithic)	20-72	Indurated	---	---	High	Moderate	Moderate
Rock outcrop-----	none	---	---	---	---	---	---	---
402: Clam Gulch-----	none	---	---	---	---	High	High	High
403: Clam Gulch-----	none	---	---	---	---	High	High	High
Doroshin-----	none	---	---	3-12	7-24	High	High	High
Jacobsen-----	none	---	---	---	---	High	High	High
404: Cryosaprists, tidal flats-----	none	---	---	3-12	7-24	High	High	High
405: Cryorthents, silty-----	none	---	---	---	---	High	Moderate	Moderate
406: Cryorthents, skeletal---	none	---	---	---	---	Moderate	Moderate	Moderate
Urban land-----	none	---	---	---	---	---	---	---
407: Cryorthents, skeletal---	none	---	---	---	---	Moderate	Moderate	Moderate
Urban land-----	none	---	---	---	---	---	---	---
408: Deception-----	none	---	---	---	---	Moderate	Moderate	Moderate
Cryorthents, skeletal---	none	---	---	---	---	Moderate	Moderate	Moderate
409: Deception-----	none	---	---	---	---	Moderate	Moderate	Moderate
Disappear-----	none	---	---	---	---	High	High	High
410: Deception-----	none	---	---	---	---	Moderate	Moderate	Moderate
Estelle-----	none	---	---	---	---	High	Moderate	Moderate
Kichatna-----	none	---	---	---	---	Low	Moderate	Moderate
411: Deception-----	none	---	---	---	---	Moderate	Moderate	Moderate
Estelle-----	none	---	---	---	---	High	Moderate	Moderate
Kichatna-----	none	---	---	---	---	Low	Moderate	Moderate
412: Deception-----	none	---	---	---	---	Moderate	Moderate	Moderate
Estelle-----	none	---	---	---	---	High	Moderate	Moderate
Kichatna-----	none	---	---	---	---	Low	Moderate	Moderate
413: Deception-----	none	---	---	---	---	Moderate	Moderate	Moderate

Table 10.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		In	In			
413: Estelle-----	none	---	---	---	---	High	Moderate	Moderate
Kichatna-----	none	---	---	---	---	Low	Moderate	Moderate
414: Deception-----	none	---	---	---	---	Moderate	Moderate	Moderate
Estelle-----	none	---	---	---	---	High	Moderate	Moderate
Kichatna-----	none	---	---	---	---	Low	Moderate	Moderate
415: Deception-----	none	---	---	---	---	Moderate	Moderate	Moderate
Estelle-----	none	---	---	---	---	High	Moderate	Moderate
Kichatna-----	none	---	---	---	---	Low	Moderate	Moderate
416: Disappear-----	none	---	---	---	---	High	High	High
Pioneer Peak-----	none	---	---	---	---	Moderate	Moderate	Moderate
417: Doroshin-----	none	---	---	3-12	7-24	High	High	High
418: Dumps, landfill-----	none	---	---	---	---	---	---	---
419: Eklutna-----	none	---	---	---	---	Low	Moderate	Moderate
420: Haplocryods-----	Bedrock (lithic)	10-40	Indurated	---	---	High	Moderate	Moderate
421: Histic Cryaquepts-----	none	---	---	---	---	High	High	High
422: Histic Cryaquepts-----	none	---	---	---	---	High	High	High
Hurdygurdy-----	none	---	---	---	---	High	High	High
423: Hurdygurdy-----	none	---	---	---	---	High	High	High
Siwash-----	Bedrock (lithic)	16-26	Indurated	---	---	High	High	High
Rock outcrop-----	none	---	---	---	---	---	---	---
424: Icknuun, ponded-----	none	---	---	8-16	16-31	High	High	High
425: Jacobsen-----	none	---	---	---	---	High	High	High
Disappear-----	none	---	---	---	---	High	High	High
Doroshin, ponded-----	none	---	---	3-12	7-24	High	High	High
426: Jacobsen-----	none	---	---	---	---	High	High	High
Disappear-----	none	---	---	---	---	High	High	High
Doroshin-----	none	---	---	3-12	7-24	High	High	High
427: Jacobsen-----	none	---	---	---	---	High	High	High
Disappear-----	none	---	---	---	---	High	High	High

Table 10.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
427: Doroshin-----	none	In ---	---	In 3-12	In 7-24	High	High	High
428: Kashwitna-----	none	---	---	---	---	High	Moderate	Moderate
Kichatna-----	none	---	---	---	---	Low	Moderate	Moderate
429: Kashwitna-----	none	---	---	---	---	High	Moderate	Moderate
Kichatna-----	none	---	---	---	---	Low	Moderate	Moderate
430: Kashwitna-----	none	---	---	---	---	High	Moderate	Moderate
Kichatna-----	none	---	---	---	---	Low	Moderate	Moderate
431: Kashwitna-----	none	---	---	---	---	High	Moderate	Moderate
Kichatna-----	none	---	---	---	---	Low	Moderate	Moderate
432: Kashwitna-----	none	---	---	---	---	High	Moderate	Moderate
Kichatna-----	none	---	---	---	---	Low	Moderate	Moderate
433: Kashwitna-----	none	---	---	---	---	High	Moderate	Moderate
Kichatna-----	none	---	---	---	---	Low	Moderate	Moderate
434: Kichatna-----	none	---	---	---	---	Low	Moderate	Moderate
Pioneer Peak-----	none	---	---	---	---	Moderate	Moderate	Moderate
Jacobsen-----	none	---	---	---	---	High	High	High
435: Matsu-----	none	---	---	---	---	High	Moderate	Moderate
436: Matsu-----	none	---	---	---	---	High	Moderate	Moderate
437: Moose River-----	none	---	---	---	---	High	Moderate	Moderate
Niklason-----	none	---	---	---	---	Moderate	Moderate	Moderate
438: Moose River-----	none	---	---	---	---	High	Moderate	Moderate
Niklason-----	none	---	---	---	---	Moderate	Moderate	Moderate
439: Nakochna-----	Bedrock (lithic)	14-20	Indurated	---	---	High	High	High
Rock outcrop-----	none	---	---	---	---	---	---	---
440: Pioneer Peak-----	none	---	---	---	---	Moderate	Moderate	Moderate
441: Pioneer Peak-----	none	---	---	---	---	Moderate	Moderate	Moderate

Table 10.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		In	In			
442: Pioneer Peak-----	none	---	---	---	---	Moderate	Moderate	Moderate
Jacobsen-----	none	---	---	---	---	High	High	High
Doroshin-----	none	---	---	3-12	7-24	High	High	High
443: Pits, gravel-----	none	---	---	---	---	---	---	---
444: Riverwash-----	none	---	---	---	---	---	---	---
Niklavar, frequently flooded-----	none	---	---	---	---	High	Moderate	Moderate
445: Rock outcrop-----	none	---	---	---	---	---	---	---
446: Salamatof-----	none	---	---	8-16	16-31	High	High	High
447: Smithfha-----	none	---	---	---	---	Moderate	Moderate	Moderate
448: Smithfha-----	none	---	---	---	---	Moderate	Moderate	Moderate
449: Smithfha-----	none	---	---	---	---	Moderate	Moderate	Moderate
450: Smithfha-----	none	---	---	---	---	Moderate	Moderate	Moderate
451: Smithfha-----	none	---	---	---	---	Moderate	Moderate	Moderate
Anchorpark-----	none	---	---	---	---	Low	Moderate	Moderate
452: Susitna-----	none	---	---	---	---	Moderate	High	High
453: Susivar-----	none	---	---	---	---	High	Moderate	Moderate
Niklavar-----	none	---	---	---	---	High	Moderate	Moderate
454: Susivar-----	none	---	---	---	---	High	Moderate	Moderate
Moose River-----	none	---	---	---	---	High	Moderate	Moderate
455: Talkeetna-----	none	---	---	---	---	High	High	High
Chugach-----	none	---	---	---	---	Low	Moderate	Moderate
Deneka-----	Bedrock (lithic)	16-26	Indurated	---	---	High	High	High
456: Talkeetna-----	none	---	---	---	---	High	High	High
Chugach-----	none	---	---	---	---	Low	Moderate	Moderate
Deneka-----	Bedrock (lithic)	16-26	Indurated	---	---	High	High	High
457: Talkeetna-----	none	---	---	---	---	High	High	High
Chugach-----	none	---	---	---	---	Low	Moderate	Moderate
Deneka-----	Bedrock (lithic)	16-26	Indurated	---	---	High	High	High

Table 10.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
				In	In			
458: Talkeetna-----	none	---	---	---	---	High	High	High
Chugach-----	none	---	---	---	---	Low	Moderate	Moderate
Deneka-----	Bedrock (lithic)	16-26	Indurated	---	---	High	High	High
459: Talkeetna-----	none	---	---	---	---	High	High	High
Chugach-----	none	---	---	---	---	Low	Moderate	Moderate
Histic Cryaquepts-----	none	---	---	---	---	High	High	High
460: Talkeetna, cool-----	none	---	---	---	---	High	High	High
Chugach, cool-----	none	---	---	---	---	Low	Moderate	Moderate
Histic Cryaquepts-----	none	---	---	---	---	High	High	High
461: Talkeetna-----	none	---	---	---	---	High	High	High
Deneka-----	Bedrock (lithic)	16-26	Indurated	---	---	High	High	High
Rock outcrop-----	none	---	---	---	---	---	---	---
462: Typic Cryaquents, tidal flats-----	none	---	---	---	---	High	Moderate	Moderate
Typic Cryaquepts, beach terrace-----	none	---	---	---	---	High	High	High
463: Water-----	none	---	---	---	---	---	---	---
464: Water, saline-----	none	---	---	---	---	---	---	---
465: Whitsol-----	none	---	---	---	---	High	High	High
466: Whitsol-----	none	---	---	---	---	High	High	High
467: Whitsol-----	none	---	---	---	---	High	High	High
468: Whitsol-----	none	---	---	---	---	High	High	High
469: Whitsol-----	none	---	---	---	---	High	High	High

Table 11.--Land Capability

Map symbol and soil name	Land capability (non-irrigated)
400: Anchorpark-----	7e
401: Andic Humicryods----- Rock outcrop-----	7e 8
402: Clam Gulch-----	5w
403: Clam Gulch----- Doroshin----- Jacobsen-----	6e 6w 6e
404: Cryosaprists, tidal flats	6w
405: Cryorthents, silty-----	7e
406: Cryorthents, skeletal---- Urban land-----	6s 8
407: Cryorthents, skeletal---- Urban land-----	6e 8
408: Deception----- Cryorthents, skeletal----	7e 7e
409: Deception----- Disappear-----	6e 6e
410: Deception----- Estelle----- Kichatna-----	3e 3e 4s
411: Deception----- Estelle----- Kichatna-----	6e 6e 6e
412: Deception----- Estelle----- Kichatna-----	7e 7e 7e
413: Deception----- Estelle----- Kichatna-----	7e 7e 7e
414: Deception----- Estelle----- Kichatna-----	6e 6e 6e
415: Deception----- Estelle----- Kichatna-----	7e 7e 7e
416: Disappear----- Pioneer Peak-----	6w 3w

Table 11.--Land Capability--Continued

Map symbol and soil name	Land capability (non-irrigated)
417: Doroshin-----	6w
418: Dumps, landfill-----	8
419: Eklutna-----	6s
420: Haplocryods-----	7e
421: Histic Cryaquepts-----	6e
422: Histic Cryaquepts----- Hurdygurdy-----	6e 6e
423: Hurdygurdy----- Siwash----- Rock outcrop-----	7e 7e 8
424: Icknuun, ponded-----	6w
425: Jacobsen----- Disappear----- Doroshin, ponded-----	6w 6w 6w
426: Jacobsen----- Disappear----- Doroshin-----	6w 6w 6w
427: Jacobsen----- Disappear----- Doroshin-----	6w 6w 6w
428: Kashwitna----- Kichatna-----	3s 4s
429: Kashwitna----- Kichatna-----	6e 6e
430: Kashwitna----- Kichatna-----	7e 7e
431: Kashwitna----- Kichatna-----	3e 4s
432: Kashwitna----- Kichatna-----	6e 6e
433: Kashwitna----- Kichatna-----	7e 7e
434: Kichatna----- Pioneer Peak----- Jacobsen-----	6e 6e 6w

Table 11.--Land Capability--Continued

Map symbol and soil name	Land capability (non-irrigated)
435: Matsu-----	3w
436: Matsu-----	3e
437: Moose River----- Niklason-----	5w 5w
438: Moose River----- Niklason-----	5w 4w
439: Nakochna----- Rock outcrop-----	7e 8
440: Pioneer Peak-----	3w
441: Pioneer Peak-----	3w
442: Pioneer Peak----- Jacobsen----- Doroshin-----	6e 6e 6w
443: Pits, gravel-----	8
444: Riverwash----- Niklavar, frequently flooded-----	--- 5w
445: Rock outcrop-----	8
446: Salamatof-----	7w
447: Smithfha-----	2c
448: Smithfha-----	3e
449: Smithfha-----	7e
450: Smithfha-----	7e
451: Smithfha----- Anchorpark-----	6e 6e
452: Susitna-----	3c
453: Susivar----- Niklavar-----	4w 4w
454: Susivar----- Moose River-----	4w 5w

Table 11.--Land Capability--Continued

Map symbol and soil name	Land capability (non-irrigated)
455:	
Talkeetna-----	6e
Deneka-----	6e
Chugach-----	6e
456:	
Talkeetna-----	7e
Deneka-----	7e
Chugach-----	7e
457:	
Talkeetna-----	7e
Deneka-----	7e
Chugach-----	7e
458:	
Talkeetna-----	6e
Deneka-----	6e
Chugach-----	6e
459:	
Talkeetna-----	7e
Chugach-----	7e
Histic Cryaquepts-----	6e
460:	
Talkeetna, cool-----	7e
Chugach, cool-----	7e
Histic Cryaquepts-----	6e
461:	
Talkeetna-----	7e
Deneka-----	7e
Rock outcrop-----	8
462:	
Typic Cryaquents, tidal flats-----	8
Typic Cryaquepts, beach terrace-----	8
463:	
Water-----	8
464:	
Water, saline-----	8
465:	
Whitsol-----	2c
466:	
Whitsol-----	3e
467:	
Whitsol-----	4e
468:	
Whitsol-----	6e
469:	
Whitsol-----	7e

Table 12.--Recreation: Camp and Picnic Areas, Playgrounds, Foot and ATV Trails

(This table gives soil limitation ratings and the primary limiting factors associated with the ratings. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas (Alaska criteria)		Playgrounds (Alaska criteria)		Foot and ATV trails (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
400: Anchorpark-----	85	Very limited: Slope	1.00	Very limited: Slope	1.00	Not limited	
401: Andic Humicryods-----	75	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
402: Clam Gulch-----	80	Very limited: Depth to saturated zone Restricted permeability Silty surface layer dusty when dry and slippery when wet	1.00 0.96 0.50	Very limited: Depth to saturated zone Restricted permeability Silty surface layer dusty when dry and slippery when wet	1.00 0.96 0.50	Somewhat limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	0.86 0.50
403: Clam Gulch-----	45	Very limited: Depth to saturated zone Restricted permeability Silty surface layer dusty when dry and slippery when wet Slope	1.00 0.96 0.50 0.01	Very limited: Depth to saturated zone Slope Restricted permeability Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.96 0.50	Somewhat limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	0.86 0.50
Doroshin-----	35	Very limited: Depth to saturated zone Excess surface organic matter Sandy surface layer easily displaced Slope	1.00 1.00 0.50 0.01	Very limited: Depth to saturated zone Excess surface organic matter Slope Sandy surface layer easily displaced	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Sandy surface layer easily displaced	1.00 1.00 0.50
Jacobsen-----	15	Very limited: Depth to saturated zone Excess surface organic matter Silty surface layer dusty when dry and slippery when wet Slope	1.00 1.00 0.50 0.01	Very limited: Depth to saturated zone Excess surface organic matter Slope Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50 0.50	Very limited: Depth to saturated zone Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
404: Cryosaprists, tidal flats-----	90	Very limited: Depth to saturated zone Flooding Excess surface organic matter	1.00 1.00 1.00	Very limited: Depth to saturated zone Excess surface organic matter Flooding	1.00 1.00 1.00	Very limited: Depth to saturated zone Excess surface organic matter Flooding	1.00 1.00 0.60

Table 12.--Recreation: Camp and Picnic Areas, Playgrounds, Foot and ATV Trails--Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas (Alaska criteria)		Playgrounds (Alaska criteria)		Foot and ATV trails (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
405: Cryorthents, silty----	90	Very limited: Slope Silty surface layer dusty when dry and slippery when wet Restricted permeability	1.00 0.50 0.26	Very limited: Slope Silty surface layer dusty when dry and slippery when wet Restricted permeability	1.00 0.50 0.26	Very limited: Water erosion hazard Silty surface layer dusty when dry and slippery when wet	1.00 0.50
406: Cryorthents, skeletal-	45	Somewhat limited: Gravel content Sandy surface layer easily displaced Content of large stones	0.85 0.50 0.01	Very limited: Gravel content Content of large stones Sandy surface layer easily displaced Slope	1.00 0.99 0.50 0.13	Somewhat limited: Sandy surface layer easily displaced Content of large stones	0.50 0.01
Urban land-----	45	Not rated		Not rated		Not rated	
407: Cryorthents, skeletal-	45	Somewhat limited: Gravel content Sandy surface layer easily displaced Slope Content of large stones	0.85 0.50 0.16 0.01	Very limited: Gravel content Slope Content of large stones Sandy surface layer easily displaced	1.00 1.00 0.99 0.50	Somewhat limited: Sandy surface layer easily displaced Content of large stones	0.50 0.01
Urban land-----	45	Not rated		Not rated		Not rated	
408: Deception-----	55	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Cryorthents, skeletal-	45	Very limited: Slope Sandy surface layer easily displaced	1.00 0.50	Very limited: Slope Sandy surface layer easily displaced	1.00 0.50	Somewhat limited: Sandy surface layer easily displaced	0.50
409: Deception-----	80	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.16	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Disappear-----	10	Very limited: Excess surface organic matter Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Sandy surface layer easily displaced	1.00 1.00 0.50 0.50	Very limited: Excess surface organic matter Depth to saturated zone Slope Sandy surface layer easily displaced Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.87 0.50 0.50	Very limited: Excess surface organic matter Depth to saturated zone Sandy surface layer easily displaced Silty surface layer dusty when dry and slippery when wet	1.00 0.86 0.50 0.50
410: Deception-----	40	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Slope Silty surface layer dusty when dry and slippery when wet	0.50 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50

Table 12.--Recreation: Camp and Picnic Areas, Playgrounds, Foot and ATV Trails--Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Playgrounds  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
410: Estelle-----	35	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Slope Silty surface layer dusty when dry and slippery when wet	0.50 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Kichatna-----	15	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Slope Silty surface layer dusty when dry and slippery when wet	0.50 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
411: Deception-----	40	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Estelle-----	35	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Kichatna-----	15	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
412: Deception-----	40	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Estelle-----	35	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Kichatna-----	15	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
413: Deception-----	40	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Estelle-----	35	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Kichatna-----	15	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50

Table 12.--Recreation: Camp and Picnic Areas, Playgrounds, Foot and ATV Trails--Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas (Alaska criteria)		Playgrounds (Alaska criteria)		Foot and ATV trails (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
414: Deception-----	40	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50  0.04	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Estelle-----	35	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50  0.04	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Kichatna-----	15	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50  0.04	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
415: Deception-----	40	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Estelle-----	35	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Kichatna-----	15	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
416: Disappear-----	60	Very limited: Excess surface organic matter Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Sandy surface layer easily displaced	1.00 1.00 0.50 0.50	Very limited: Excess surface organic matter Depth to saturated zone Slope Sandy surface layer easily displaced Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50 0.50 0.50	Very limited: Excess surface organic matter Depth to saturated zone Sandy surface layer easily displaced Silty surface layer dusty when dry and slippery when wet	1.00 0.86 0.50 0.50
Pioneer Peak-----	30	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Depth to saturated zone	0.50  0.44	Somewhat limited: Slope Silty surface layer dusty when dry and slippery when wet Depth to saturated zone	0.50 0.50 0.44	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
417: Doroshin-----	85	Very limited: Depth to saturated zone Excess surface organic matter Sandy surface layer easily displaced	1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Sandy surface layer easily displaced Slope	1.00 1.00 0.50 0.13	Very limited: Depth to saturated zone Excess surface organic matter Sandy surface layer easily displaced	1.00 1.00 0.50

Table 12.--Recreation: Camp and Picnic Areas, Playgrounds, Foot and ATV Trails--Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Playgrounds  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
418: Dumps, landfill-----	100	Not rated		Not rated		Not rated	
419: Eklutna-----	100	Somewhat limited: Sandy surface layer easily displaced	0.50	Somewhat limited: Sandy surface layer easily displaced Slope	0.50 0.01	Somewhat limited: Sandy surface layer easily displaced	0.50
420: Haplocryods-----	95	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 0.90 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
421: Histic Cryaquepts----	90	Very limited: Excess surface organic matter Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Slope	1.00 1.00 0.50 0.04	Very limited: Excess surface organic matter Depth to saturated zone Slope Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Excess surface organic matter Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.86 0.50
422: Histic Cryaquepts----	55	Very limited: Excess surface organic matter Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Slope	1.00 1.00 0.50 0.16	Very limited: Excess surface organic matter Depth to saturated zone Slope Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Excess surface organic matter Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.86 0.50
Hurdygurdy-----	35	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
423: Hurdygurdy-----	70	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Siwash-----	15	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 0.99 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Rock outcrop-----	10	Not rated		Not rated		Not rated	
424: Icknuun, ponded-----	85	Very limited: Depth to saturated zone Ponding Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Ponding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50

Table 12.--Recreation: Camp and Picnic Areas, Playgrounds, Foot and ATV Trails--Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas (Alaska criteria)		Playgrounds (Alaska criteria)		Foot and ATV trails (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
425: Jacobsen-----	35	Very limited: Depth to saturated zone Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Silty surface layer dusty when dry and slippery when wet Slope	1.00 1.00 0.50 0.01	Very limited: Depth to saturated zone Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
Disappear-----	30	Very limited: Excess surface organic matter Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Sandy surface layer easily displaced	1.00 1.00 0.50 0.50	Very limited: Excess surface organic matter Depth to saturated zone Sandy surface layer easily displaced Silty surface layer dusty when dry and slippery when wet Slope	1.00 1.00 0.50 0.50 0.01	Very limited: Excess surface organic matter Depth to saturated zone Sandy surface layer easily displaced Silty surface layer dusty when dry and slippery when wet	1.00 0.86 0.50 0.50
Doroshin, ponded-----	20	Very limited: Depth to saturated zone Ponding Excess surface organic matter Sandy surface layer easily displaced	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Ponding Sandy surface layer easily displaced	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Ponding Sandy surface layer easily displaced	1.00 1.00 1.00 0.50
426: Jacobsen-----	35	Very limited: Depth to saturated zone Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Slope Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.87 0.50	Very limited: Depth to saturated zone Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
Disappear-----	30	Very limited: Excess surface organic matter Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Sandy surface layer easily displaced	1.00 1.00 0.50 0.50	Very limited: Excess surface organic matter Depth to saturated zone Slope Sandy surface layer Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50 0.50 0.50	Very limited: Excess surface organic matter Depth to saturated zone Sandy surface layer easily displaced Silty surface layer dusty when dry and slippery when wet	1.00 0.86 0.50 0.50
Doroshin-----	25	Very limited: Depth to saturated zone Excess surface organic matter Sandy surface layer easily displaced	1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Slope Sandy surface layer easily displaced	1.00 1.00 0.87 0.50	Very limited: Depth to saturated zone Excess surface organic matter Sandy surface layer easily displaced	1.00 1.00 0.50

Table 12.--Recreation: Camp and Picnic Areas, Playgrounds, Foot and ATV Trails--Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Playgrounds  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
427: Jacobsen-----	35	Very limited: Depth to saturated zone Excess surface organic matter Silty surface layer dusty when dry and slippery when wet Slope	1.00 1.00 0.50 0.16	Very limited: Depth to saturated zone Slope Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
Disappear-----	30	Very limited: Excess surface organic matter Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Sandy surface layer easily displaced Slope	1.00 1.00 0.50 0.50 0.16	Very limited: Slope Excess surface organic matter Depth to saturated zone Sandy surface layer easily displaced Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50 0.50	Very limited: Excess surface organic matter Depth to saturated zone Sandy surface layer easily displaced Silty surface layer dusty when dry and slippery when wet	1.00 0.86 0.50 0.50
Doroshin-----	25	Very limited: Depth to saturated zone Excess surface organic matter Sandy surface layer easily displaced	1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Slope Sandy surface layer easily displaced	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Sandy surface layer easily displaced	1.00 1.00 0.50
428: Kashwitna-----	45	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Kichatna-----	40	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
429: Kashwitna-----	60	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Kichatna-----	25	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
430: Kashwitna-----	50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Kichatna-----	40	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50

Table 12.--Recreation: Camp and Picnic Areas, Playgrounds, Foot and ATV Trails--Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Playgrounds  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
431: Kashwitna-----	45	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.01	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Kichatna-----	40	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Slope Silty surface layer dusty when dry and slippery when wet	0.50 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
432: Kashwitna-----	70	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.04	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Kichatna-----	25	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.04	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
433: Kashwitna-----	60	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Kichatna-----	30	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
434: Kichatna-----	45	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.04	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Pioneer Peak-----	30	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Depth to saturated zone	0.50 0.44	Somewhat limited: Slope Silty surface layer dusty when dry and slippery when wet Depth to saturated zone	0.87 0.50 0.44	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Jacobsen-----	15	Very limited: Depth to saturated zone Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Slope Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.87 0.50	Very limited: Depth to saturated zone Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50

Table 12.--Recreation: Camp and Picnic Areas, Playgrounds, Foot and ATV Trails--Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas (Alaska criteria)		Playgrounds (Alaska criteria)		Foot and ATV trails (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
435: Matsu-----	90	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Sandy surface layer easily displaced	0.50 0.50	Somewhat limited: Sandy surface layer easily displaced Silty surface layer dusty when dry and slippery when wet	0.50 0.50	Somewhat limited: Sandy surface layer easily displaced Silty surface layer dusty when dry and slippery when wet	0.50 0.50
		Depth to saturated zone	0.44	Depth to saturated zone	0.44		
436: Matsu-----	90	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Sandy surface layer easily displaced Depth to saturated zone	0.50 0.50 0.44	Somewhat limited: Slope Sandy surface layer easily displaced Silty surface layer dusty when dry and slippery when wet Depth to saturated zone	0.87 0.50 0.50 0.44	Somewhat limited: Sandy surface layer easily displaced Silty surface layer dusty when dry and slippery when wet	0.50 0.50
437: Moose River-----	70	Very limited: Depth to saturated zone Flooding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Flooding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet Flooding	1.00 0.50 0.40
Niklason-----	20	Very limited: Flooding Silty surface layer dusty when dry and slippery when wet Depth to saturated zone	1.00 0.50 0.44	Very limited: Flooding Silty surface layer dusty when dry and slippery when wet Depth to saturated zone	1.00 0.50 0.44	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Flooding	0.50 0.40
438: Moose River-----	70	Very limited: Depth to saturated zone Flooding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Flooding Silty surface layer dusty when dry and slippery when wet	1.00 0.60 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50
Niklason-----	20	Very limited: Flooding Silty surface layer dusty when dry and slippery when wet Depth to saturated zone	1.00 0.50 0.44	Somewhat limited: Flooding Silty surface layer dusty when dry and slippery when wet Depth to saturated zone	0.60 0.50 0.44	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
439: Nakochna-----	55	Very limited: Slope Restricted permeability Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Restricted permeability Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Rock outcrop-----	30	Not rated		Not rated		Not rated	

Table 12.--Recreation: Camp and Picnic Areas, Playgrounds, Foot and ATV Trails--Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas (Alaska criteria)		Playgrounds (Alaska criteria)		Foot and ATV trails (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
440: Pioneer Peak-----	80	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Depth to saturated zone	0.50 0.44	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Depth to saturated zone Slope	0.50 0.44 0.01	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
441: Pioneer Peak-----	80	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Depth to saturated zone	0.50 0.44	Somewhat limited: Slope Silty surface layer dusty when dry and slippery when wet Depth to saturated zone	0.87 0.50 0.44	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
442: Pioneer Peak-----	45	Very limited: Slope Silty surface layer dusty when dry and slippery when wet Depth to saturated zone	1.00 0.50 0.44	Very limited: Slope Silty surface layer dusty when dry and slippery when wet Depth to saturated zone	1.00 0.50 0.44	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Jacobsen-----	30	Very limited: Depth to saturated zone Excess surface organic matter Slope Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Slope Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50
Doroshin-----	15	Very limited: Depth to saturated zone Excess surface organic matter Slope Sandy surface layer easily displaced	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Slope Excess surface organic matter Sandy surface layer easily displaced	1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Excess surface organic matter Sandy surface layer easily displaced	1.00 1.00 0.50
443: Pits, gravel-----	100	Not rated		Not rated		Not rated	
444: Riverwash-----	45	Not rated		Not rated		Not rated	
Niklavar, frequently flooded-----	45	Very limited: Flooding Depth to saturated zone	1.00 1.00	Very limited: Flooding Depth to saturated zone	1.00 1.00	Somewhat limited: Depth to saturated zone Flooding	0.86 0.40
445: Rock outcrop-----	100	Not rated		Not rated		Not rated	
446: Salamatof-----	85	Very limited: Depth to saturated zone Ponding Excess surface organic matter	1.00 1.00 1.00	Very limited: Depth to saturated zone Excess surface organic matter Ponding	1.00 1.00 1.00	Very limited: Depth to saturated zone Excess surface organic matter Ponding	1.00 1.00 1.00

Table 12.--Recreation: Camp and Picnic Areas, Playgrounds, Foot and ATV Trails--Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Playgrounds  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
447: Smithfha-----	85	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
448: Smithfha-----	85	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Slope Silty surface layer dusty when dry and slippery when wet	0.50 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
449: Smithfha-----	90	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
450: Smithfha-----	85	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
451: Smithfha-----	60	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.04	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Anchorpark-----	35	Somewhat limited: Slope	0.04	Very limited: Slope	1.00	Not limited	
452: Susitna-----	85	Very limited: Flooding Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
453: Susivar-----	45	Very limited: Flooding Depth to saturated zone	1.00 0.44	Somewhat limited: Flooding Depth to saturated zone	0.60 0.44	Not limited	
Niklavar-----	45	Very limited: Flooding Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone Flooding	1.00 0.60	Somewhat limited: Depth to saturated zone	0.86
454: Susivar-----	70	Very limited: Flooding Depth to saturated zone	1.00 0.44	Somewhat limited: Flooding Depth to saturated zone	0.60 0.44	Not limited	
Moose River-----	20	Very limited: Depth to saturated zone Flooding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Flooding Silty surface layer dusty when dry and slippery when wet	1.00 0.60 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50

Table 12.--Recreation: Camp and Picnic Areas, Playgrounds, Foot and ATV Trails--Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas (Alaska criteria)		Playgrounds (Alaska criteria)		Foot and ATV trails (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
455: Talkeetna-----	45	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Chugach-----	20	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Deneka-----	30	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 0.97 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
456: Talkeetna-----	45	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Chugach-----	20	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Deneka-----	30	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 0.97 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
457: Talkeetna-----	45	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Chugach-----	20	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Deneka-----	30	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 0.97 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
458: Talkeetna-----	45	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.16	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50

Table 12.--Recreation: Camp and Picnic Areas, Playgrounds, Foot and ATV Trails--Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas  (Alaska criteria)		Playgrounds  (Alaska criteria)		Foot and ATV trails  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
458: Chugach-----	20	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50  0.16	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Deneka-----	30	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50  0.16	Very limited: Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 0.97 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
459: Talkeetna-----	45	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Chugach-----	40	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Histic Cryaquepts----	15	Very limited: Excess surface organic matter Depth to saturated zone Slope Silty surface layer dusty when dry and slippery when wet	1.00  1.00  1.00 0.50	Very limited: Slope Excess surface organic matter Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Excess surface organic matter Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00  0.86  0.50
460: Talkeetna, cool-----	45	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Chugach, cool-----	40	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Histic Cryaquepts----	15	Very limited: Excess surface organic matter Depth to saturated zone Slope Silty surface layer dusty when dry and slippery when wet	1.00  1.00  1.00 0.50	Very limited: Slope Excess surface organic matter Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 1.00 1.00 0.50	Very limited: Excess surface organic matter Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00  0.86  0.50
461: Talkeetna-----	70	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50

Table 12.--Recreation: Camp and Picnic Areas, Playgrounds, Foot and ATV Trails--Continued

Map symbol and soil name	Pct. of map unit	Camp and Picnic Areas (Alaska criteria)		Playgrounds (Alaska criteria)		Foot and ATV trails (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
461: Deneka-----	15	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Depth to bedrock Silty surface layer dusty when dry and slippery when wet	1.00 0.97 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
Rock outcrop-----	10	Not rated		Not rated		Not rated	
462: Typic Cryaquepts, tidal flats-----	70	Very limited: Depth to saturated zone Flooding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Flooding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Flooding Silty surface layer dusty when dry and slippery when wet	1.00 0.60 0.50
Typic Cryaquepts, beach terrace-----	25	Very limited: Depth to saturated zone Flooding Silty surface layer dusty when dry and slippery when wet	1.00 1.00 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Depth to saturated zone Silty surface layer dusty when dry and slippery when wet	1.00 0.50
463: Water-----	90	Not rated		Not rated		Not rated	
464: Water, saline-----	90	Not rated		Not rated		Not rated	
465: Whitsol-----	85	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
466: Whitsol-----	80	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50	Somewhat limited: Slope Silty surface layer dusty when dry and slippery when wet	0.87 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
467: Whitsol-----	85	Somewhat limited: Silty surface layer dusty when dry and slippery when wet Slope	0.50 0.04	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
468: Whitsol-----	85	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50
469: Whitsol-----	85	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Very limited: Slope Silty surface layer dusty when dry and slippery when wet	1.00 0.50	Somewhat limited: Silty surface layer dusty when dry and slippery when wet	0.50

Table 13.--Building Site Development: Structures

(This table gives soil limitation ratings and the primary limiting factors associated with the ratings. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Dwellings without basements (Alaska criteria)		Dwellings with basements (Alaska criteria)		Small commercial buildings (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
400: Anchorpark-----	85	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
401: Andic Humicryods-----	75	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
402: Clam Gulch-----	80	Very limited: High water table	1.00	Very limited: High water table	1.00	Very limited: High water table Slope	1.00 0.01
403: Clam Gulch-----	45	Very limited: High water table	1.00	Very limited: High water table	1.00	Very limited: High water table Slope	1.00 1.00
Doroshin-----	35	Very limited: High water table Organic material Subsidence	1.00 1.00 1.00	Very limited: High water table Subsidence	1.00 1.00	Very limited: High water table Organic material Subsidence Slope	1.00 1.00 1.00 1.00
Jacobsen-----	15	Very limited: High water table	1.00	Very limited: High water table	1.00	Very limited: High water table Slope	1.00 1.00
404: Cryosaprists, tidal flats-----	90	Very limited: Flooding High water table Organic material Subsidence	1.00 1.00 1.00 1.00	Very limited: Flooding High water table Organic material Subsidence	1.00 1.00 1.00 1.00	Very limited: Flooding High water table Organic material Subsidence	1.00 1.00 1.00 1.00
405: Cryorthents, silty---	90	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
406: Cryorthents, skeletal-	45	Somewhat limited: Large stones	0.03	Somewhat limited: Large stones	0.03	Somewhat limited: Large stones	0.03
Urban land-----	45	Not rated		Not rated		Not rated	
407: Cryorthents, skeletal-	45	Somewhat limited: Slope Large stones	0.16 0.03	Somewhat limited: Slope Large stones	0.16 0.03	Very limited: Slope Large stones	1.00 0.03
Urban land-----	45	Not rated		Not rated		Not rated	
408: Deception-----	55	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Cryorthents, skeletal-	45	Very limited: Slope Large stones	1.00 0.02	Very limited: Slope Large stones	1.00 0.02	Very limited: Slope Large stones	1.00 0.02

Table 13.--Building Site Development: Structures--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements (Alaska criteria)		Dwellings with basements (Alaska criteria)		Small commercial buildings (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
409: Deception-----	80	Somewhat limited: Slope	0.16	Somewhat limited: Slope	0.16	Very limited: Slope	1.00
Disappear-----	10	Very limited: High water table	1.00	Very limited: High water table	1.00	Very limited: High water table Slope	1.00 0.12
410: Deception-----	40	Not limited		Not limited		Somewhat limited: Slope	0.01
Estelle-----	35	Not limited		Not limited		Somewhat limited: Slope	0.01
Kichatna-----	15	Not limited		Not limited		Somewhat limited: Slope	0.01
411: Deception-----	40	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Estelle-----	35	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Kichatna-----	15	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
412: Deception-----	40	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Estelle-----	35	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Kichatna-----	15	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
413: Deception-----	40	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Estelle-----	35	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Kichatna-----	15	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
414: Deception-----	40	Somewhat limited: Slope	0.04	Somewhat limited: Slope	0.04	Very limited: Slope	1.00
Estelle-----	35	Somewhat limited: Slope	0.04	Somewhat limited: Slope	0.04	Very limited: Slope	1.00
Kichatna-----	15	Somewhat limited: Slope	0.04	Somewhat limited: Slope	0.04	Very limited: Slope	1.00
415: Deception-----	40	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Estelle-----	35	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Kichatna-----	15	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00

Table 13.--Building Site Development: Structures--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements (Alaska criteria)		Dwellings with basements (Alaska criteria)		Small commercial buildings (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
416: Disappear-----	60	Very limited: High water table	1.00	Very limited: High water table	1.00	Very limited: High water table Slope	1.00 0.01
Pioneer Peak-----	30	Somewhat limited: High water table	0.73	Very limited: High water table	1.00	Somewhat limited: High water table Slope	0.73 0.01
417: Doroshin-----	85	Very limited: High water table Organic material Subsidence	1.00 1.00 1.00	Very limited: High water table Subsidence	1.00 1.00	Very limited: High water table Organic material Subsidence	1.00 1.00 1.00
418: Dumps, landfill-----	100	Not rated		Not rated		Not rated	
419: Eklutna-----	100	Not limited		Not limited		Not limited	
420: Haplocryods-----	95	Very limited: Slope Hard bedrock	1.00 0.90	Very limited: Hard bedrock Slope	1.00 1.00	Very limited: Slope Hard bedrock	1.00 0.90
421: Histic Cryaquepts-----	90	Very limited: High water table Slope	1.00 0.01	Very limited: High water table Slope	1.00 0.01	Very limited: High water table Slope	1.00 1.00
422: Histic Cryaquepts-----	55	Very limited: High water table Slope	1.00 0.01	Very limited: High water table Slope	1.00 0.01	Very limited: High water table Slope	1.00 1.00
Hurdygurdy-----	35	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
423: Hurdygurdy-----	70	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Siwash-----	15	Very limited: Slope Hard bedrock	1.00 0.99	Very limited: Hard bedrock Slope	1.00 1.00	Very limited: Slope Hard bedrock	1.00 0.99
Rock outcrop-----	10	Not rated		Not rated		Not rated	
424: Icknuun, ponded-----	85	Very limited: Ponding Subsidence High water table Organic material	1.00 1.00 1.00 1.00	Very limited: Ponding Subsidence High water table Organic material	1.00 1.00 1.00 1.00	Very limited: Ponding Subsidence High water table Organic material	1.00 1.00 1.00 1.00
425: Jacobsen-----	35	Very limited: High water table	1.00	Very limited: High water table	1.00	Very limited: High water table	1.00
Disappear-----	30	Very limited: High water table	1.00	Very limited: High water table	1.00	Very limited: High water table	1.00
Doroshin, ponded-----	20	Very limited: Ponding High water table Organic material Subsidence	1.00 1.00 1.00 1.00	Very limited: Ponding High water table Subsidence	1.00 1.00 1.00	Very limited: Ponding High water table Organic material Subsidence	1.00 1.00 1.00 1.00

Table 13.--Building Site Development: Structures--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements (Alaska criteria)		Dwellings with basements (Alaska criteria)		Small commercial buildings (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
426: Jacobsen-----	35	Very limited: High water table	1.00	Very limited: High water table	1.00	Very limited: High water table Slope	1.00 0.12
Disappear-----	30	Very limited: High water table	1.00	Very limited: High water table	1.00	Very limited: High water table Slope	1.00 0.01
Doroshin-----	25	Very limited: High water table Organic material Subsidence	1.00 1.00 1.00	Very limited: High water table Subsidence	1.00 1.00	Very limited: High water table Organic material Subsidence Slope	1.00 1.00 1.00 0.12
427: Jacobsen-----	35	Very limited: High water table Slope	1.00 0.01	Very limited: High water table Slope	1.00 0.01	Very limited: High water table Slope	1.00 1.00
Disappear-----	30	Very limited: High water table Slope	1.00 0.16	Very limited: High water table Slope	1.00 0.16	Very limited: High water table Slope	1.00 1.00
Doroshin-----	25	Very limited: High water table Organic material Subsidence	1.00 1.00 1.00	Very limited: High water table Subsidence	1.00 1.00	Very limited: High water table Organic material Subsidence Slope	1.00 1.00 1.00 0.86
428: Kashwitna-----	45	Not limited		Not limited		Not limited	
Kichatna-----	40	Not limited		Not limited		Not limited	
429: Kashwitna-----	60	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Kichatna-----	25	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
430: Kashwitna-----	50	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Kichatna-----	40	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
431: Kashwitna-----	45	Not limited		Not limited		Not limited	
Kichatna-----	40	Not limited		Not limited		Somewhat limited: Slope	0.01
432: Kashwitna-----	70	Somewhat limited: Slope	0.04	Somewhat limited: Slope	0.04	Very limited: Slope	1.00
Kichatna-----	25	Somewhat limited: Slope	0.04	Somewhat limited: Slope	0.04	Very limited: Slope	1.00
433: Kashwitna-----	60	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Kichatna-----	30	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00

Table 13.--Building Site Development: Structures--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements (Alaska criteria)		Dwellings with basements (Alaska criteria)		Small commercial buildings (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
434: Kichatna-----	45	Somewhat limited: Slope	0.01	Somewhat limited: Slope	0.01	Very limited: Slope	1.00
Pioneer Peak-----	30	Somewhat limited: High water table	0.73	Very limited: High water table	1.00	Somewhat limited: High water table Slope	0.73 0.12
Jacobsen-----	15	Very limited: High water table	1.00	Very limited: High water table	1.00	Very limited: High water table Slope	1.00 0.12
435: Matsu-----	90	Somewhat limited: High water table	0.73	Very limited: High water table	1.00	Somewhat limited: High water table	0.73
436: Matsu-----	90	Somewhat limited: High water table	0.73	Very limited: High water table	1.00	Somewhat limited: High water table Slope	0.73 0.12
437: Moose River-----	70	Very limited: Flooding High water table	1.00 1.00	Very limited: Flooding High water table	1.00 1.00	Very limited: Flooding High water table	1.00 1.00
Niklason-----	20	Very limited: Flooding High water table	1.00 0.73	Very limited: Flooding High water table	1.00 1.00	Very limited: Flooding High water table	1.00 0.73
438: Moose River-----	70	Very limited: Flooding High water table	1.00 1.00	Very limited: Flooding High water table	1.00 1.00	Very limited: Flooding High water table	1.00 1.00
Niklason-----	20	Very limited: Flooding High water table	1.00 0.73	Very limited: Flooding High water table	1.00 1.00	Very limited: Flooding High water table	1.00 0.73
439: Nakochna-----	55	Very limited: Hard bedrock Slope	1.00 1.00	Very limited: Hard bedrock Slope	1.00 1.00	Very limited: Slope Hard bedrock	1.00 1.00
Rock outcrop-----	30	Not rated		Not rated		Not rated	
440: Pioneer Peak-----	80	Somewhat limited: High water table	0.73	Very limited: High water table	1.00	Somewhat limited: High water table	0.73
441: Pioneer Peak-----	80	Somewhat limited: High water table	0.73	Very limited: High water table	1.00	Somewhat limited: High water table Slope	0.73 0.12
442: Pioneer Peak-----	45	Somewhat limited: High water table Slope	0.73 0.13	Very limited: High water table Slope	1.00 0.13	Very limited: Slope High water table	1.00 0.73
Jacobsen-----	30	Very limited: High water table Slope	1.00 0.13	Very limited: High water table Slope	1.00 0.13	Very limited: Slope High water table	1.00 1.00
Doroshin-----	15	Very limited: High water table Organic material Subsidence Slope	1.00 1.00 1.00 0.13	Very limited: High water table Subsidence Slope	1.00 1.00 0.13	Very limited: Slope High water table Organic material Subsidence	1.00 1.00 1.00 1.00

Table 13.--Building Site Development: Structures--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements (Alaska criteria)		Dwellings with basements (Alaska criteria)		Small commercial buildings (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
443: Pits, gravel-----	100	Not rated		Not rated		Not rated	
444: Riverwash-----	45	Not rated		Not rated		Not rated	
Niklavar, frequently flooded-----	45	Very limited: Flooding High water table	1.00 1.00	Very limited: Flooding High water table	1.00 1.00	Very limited: Flooding High water table	1.00 1.00
445: Rock outcrop-----	100	Not rated		Not rated		Not rated	
446: Salamatof-----	85	Very limited: Ponding Subsidence High water table Organic material	1.00 1.00 1.00 1.00	Very limited: Ponding Subsidence High water table Organic material	1.00 1.00 1.00 1.00	Very limited: Ponding Subsidence High water table Organic material	1.00 1.00 1.00 1.00
447: Smithfha-----	85	Not limited		Not limited		Not limited	
448: Smithfha-----	85	Not limited		Not limited		Somewhat limited: Slope	0.01
449: Smithfha-----	90	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
450: Smithfha-----	85	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
451: Smithfha-----	60	Somewhat limited: Slope	0.04	Somewhat limited: Slope	0.04	Very limited: Slope	1.00
Anchorpark-----	35	Somewhat limited: Slope	0.04	Somewhat limited: Slope	0.04	Very limited: Slope	1.00
452: Susitna-----	85	Very limited: Flooding	1.00	Very limited: Flooding	1.00	Very limited: Flooding	1.00
453: Susivar-----	45	Very limited: Flooding High water table	1.00 0.73	Very limited: Flooding High water table	1.00 1.00	Very limited: Flooding High water table	1.00 0.73
Niklavar-----	45	Very limited: Flooding High water table	1.00 1.00	Very limited: Flooding High water table	1.00 1.00	Very limited: Flooding High water table	1.00 1.00
454: Susivar-----	70	Very limited: Flooding High water table	1.00 0.73	Very limited: Flooding High water table	1.00 1.00	Very limited: Flooding High water table	1.00 0.73
Moose River-----	20	Very limited: Flooding High water table	1.00 1.00	Very limited: Flooding High water table	1.00 1.00	Very limited: Flooding High water table	1.00 1.00

Table 13.--Building Site Development: Structures--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements (Alaska criteria)		Dwellings with basements (Alaska criteria)		Small commercial buildings (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
455: Talkeetna-----	45	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Chugach-----	20	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Deneka-----	30	Very limited: Slope Hard bedrock	1.00 0.97	Very limited: Hard bedrock Slope	1.00 1.00	Very limited: Slope Hard bedrock	1.00 0.97
456: Talkeetna-----	45	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Chugach-----	20	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Deneka-----	30	Very limited: Slope Hard bedrock	1.00 0.97	Very limited: Hard bedrock Slope	1.00 1.00	Very limited: Slope Hard bedrock	1.00 0.97
457: Talkeetna-----	45	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Chugach-----	20	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Deneka-----	30	Very limited: Slope Hard bedrock	1.00 0.97	Very limited: Slope Hard bedrock	1.00 1.00	Very limited: Slope Hard bedrock	1.00 0.97
458: Talkeetna-----	45	Somewhat limited: Slope	0.01	Somewhat limited: Slope	0.01	Very limited: Slope	1.00
Chugach-----	20	Somewhat limited: Slope	0.01	Somewhat limited: Slope	0.01	Very limited: Slope	1.00
Deneka-----	30	Somewhat limited: Hard bedrock Slope	0.97 0.01	Very limited: Hard bedrock Slope	1.00 0.01	Very limited: Slope Hard bedrock	1.00 0.97
459: Talkeetna-----	45	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Chugach-----	40	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Histic Cryaquepts----	15	Very limited: High water table Slope	1.00 0.13	Very limited: High water table Slope	1.00 0.13	Very limited: Slope High water table	1.00 1.00
460: Talkeetna, cool-----	45	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Chugach, cool-----	40	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Histic Cryaquepts----	15	Very limited: High water table Slope	1.00 0.13	Very limited: High water table Slope	1.00 0.13	Very limited: Slope High water table	1.00 1.00

Table 13.--Building Site Development: Structures--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements (Alaska criteria)		Dwellings with basements (Alaska criteria)		Small commercial buildings (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
461: Talkeetna-----	70	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Deneka-----	15	Very limited: Slope Hard bedrock	1.00 0.97	Very limited: Hard bedrock Slope	1.00 1.00	Very limited: Slope Hard bedrock	1.00 0.97
Rock outcrop-----	10	Not rated		Not rated		Not rated	
462: Typic Cryaquepts, tidal flats-----	70	Very limited:  Flooding High water table	 1.00 1.00	Very limited:  Flooding High water table	 1.00 1.00	Very limited:  Flooding High water table	 1.00 1.00
Typic Cryaquepts, beach terrace-----	25	Very limited:  Flooding High water table	 1.00 1.00	Very limited:  Flooding High water table	 1.00 1.00	Very limited:  Flooding High water table	 1.00 1.00
463: Water-----	90	Not rated		Not rated		Not rated	
464: Water, saline-----	90	Not rated		Not rated		Not rated	
465: Whitsol-----	85	Not limited		Not limited		Not limited	
466: Whitsol-----	80	Not limited		Not limited		Somewhat limited: Slope	0.12
467: Whitsol-----	85	Somewhat limited: Slope	0.04	Somewhat limited: Slope	0.04	Very limited: Slope	1.00
468: Whitsol-----	85	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
469: Whitsol-----	85	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00

Table 14.--Building Site Development: Site Improvements

(This table gives soil limitation ratings and the primary limiting factors associated with the ratings. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Local roads and streets (Alaska criteria)		Shallow excavations (Alaska criteria)		Lawns, landscaping, and golf fairways (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
400: Anchorpark-----	85	Very limited: Slope	1.00	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope Droughty	1.00 0.54
401: Andic Humicryods-----	75	Very limited: Frost action Slope	1.00 1.00	Very limited: Slope Cutbanks cave	1.00 0.10	Very limited: Slope	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
402: Clam Gulch-----	80	Very limited: Frost action Low strength Depth to saturated zone	1.00 1.00 0.94	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited: Depth to saturated zone	0.94
403: Clam Gulch-----	45	Very limited: Frost action Low strength Depth to saturated zone	1.00 1.00 0.94	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited: Depth to saturated zone Slope	0.94 0.01
Doroshin-----	35	Very limited: Depth to saturated zone Frost action Subsidence	1.00 1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave Content of organic matter	1.00 1.00 1.00	Very limited: Excess surface organic matter Depth to saturated zone Slope	1.00 1.00 0.01
Jacobsen-----	15	Very limited: Depth to saturated zone Frost action	1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave Depth to dense layer	1.00 1.00 0.50	Very limited: Excess surface organic matter Depth to saturated zone Slope	1.00 1.00 0.01
404: Cryosaprists, tidal flats-----	90	Very limited: Depth to saturated zone Frost action Flooding Subsidence	1.00 1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone Content of organic matter Cutbanks cave	1.00 1.00 1.00 0.10	Very limited: Flooding Excess surface organic matter Depth to saturated zone	1.00 1.00 1.00
405: Cryorthents, silty----	90	Very limited: Frost action Slope	1.00 1.00	Very limited: Slope Cutbanks cave	1.00 0.10	Very limited: Slope	1.00
406: Cryorthents, skeletal-	45	Somewhat limited: Frost action Content of large stones	0.50 0.03	Very limited: Cutbanks cave Depth to dense layer Content of large stones	1.00 0.50 0.03	Somewhat limited: Content of large stones Gravel content Too sandy Droughty	0.99 0.85 0.50 0.34
Urban land-----	45	Not rated		Not rated		Not rated	

Table 14.--Building Site Development: Site Improvements--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets (Alaska criteria)		Shallow excavations (Alaska criteria)		Lawns, landscaping, and golf fairways (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
		407: Cryorthents, skeletal-	45	Somewhat limited: Frost action	0.50	Very limited: Cutbanks cave	1.00
		Slope	0.16	Depth to dense layer	0.50	Gravel content	0.85
		Content of large stones	0.03	Slope	0.16	Too sandy	0.50
				Content of large stones	0.03	Droughty	0.34
						Slope	0.16
Urban land-----	45	Not rated		Not rated		Not rated	
408: Deception-----	55	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
		Frost action	0.50	Depth to dense layer	0.50		
				Cutbanks cave	0.10		
Cryorthents, skeletal-	45	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.20
		Content of large stones	0.02	Depth to dense layer	0.50		
				Content of large stones	0.02		
409: Deception-----	80	Somewhat limited: Frost action	0.50	Somewhat limited: Depth to dense layer	0.50	Somewhat limited: Slope	0.16
		Slope	0.16	Slope	0.16		
				Cutbanks cave	0.10		
Disappear-----	10	Very limited: Frost action	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Excess surface organic matter	1.00
		Depth to saturated zone	0.94	Cutbanks cave	1.00	Depth to saturated zone	0.94
410: Deception-----	40	Somewhat limited: Frost action	0.50	Somewhat limited: Depth to dense layer	0.50	Not limited	
				Cutbanks cave	0.10		
Estelle-----	35	Very limited: Frost action	1.00	Somewhat limited: Depth to dense layer	0.50	Not limited	
				Cutbanks cave	0.10		
Kichatna-----	15	Not limited		Very limited: Cutbanks cave	1.00	Not limited	
411: Deception-----	40	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
		Frost action	0.50	Depth to dense layer	0.50		
				Cutbanks cave	0.10		
Estelle-----	35	Very limited: Frost action	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
		Slope	1.00	Depth to dense layer	0.50		
				Cutbanks cave	0.10		
Kichatna-----	15	Very limited: Slope	1.00	Very limited: Cutbanks cave	1.00	Very limited: Slope	1.00
				Slope	1.00		
412: Deception-----	40	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
		Frost action	0.50	Depth to dense layer	0.50		
				Cutbanks cave	0.10		

Table 14.--Building Site Development: Site Improvements--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns, landscaping, and golf fairways	
		(Alaska criteria)		(Alaska criteria)		(Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
412: Estelle-----	35	Very limited: Frost action Slope	1.00 1.00	Very limited: Slope Depth to dense layer Cutbanks cave	1.00 0.50 0.10	Very limited: Slope	1.00
Kichatna-----	15	Very limited: Slope	1.00	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope	1.00
413: Deception-----	40	Very limited: Slope Frost action	1.00 0.50	Very limited: Slope Depth to dense layer Cutbanks cave	1.00 0.50 0.10	Very limited: Slope	1.00
Estelle-----	35	Very limited: Slope Frost action	1.00 1.00	Very limited: Slope Depth to dense layer Cutbanks cave	1.00 0.50 0.10	Very limited: Slope	1.00
Kichatna-----	15	Very limited: Slope	1.00	Very limited: Slope Cutbanks cave	1.00 1.00	Very limited: Slope	1.00
414: Deception-----	40	Somewhat limited: Frost action Slope	0.50 0.04	Somewhat limited: Depth to dense layer Cutbanks cave Slope	0.50 0.10 0.04	Somewhat limited: Slope	0.04
Estelle-----	35	Very limited: Frost action Slope	1.00 0.04	Somewhat limited: Depth to dense layer Cutbanks cave Slope	0.50 0.10 0.04	Somewhat limited: Slope	0.04
Kichatna-----	15	Somewhat limited: Slope	0.04	Very limited: Cutbanks cave Slope	1.00 0.04	Somewhat limited: Slope	0.04
415: Deception-----	40	Very limited: Slope Frost action	1.00 0.50	Very limited: Slope Depth to dense layer Cutbanks cave	1.00 0.50 0.10	Very limited: Slope	1.00
Estelle-----	35	Very limited: Frost action Slope	1.00 1.00	Very limited: Slope Depth to dense layer Cutbanks cave	1.00 0.50 0.10	Very limited: Slope	1.00
Kichatna-----	15	Very limited: Slope	1.00	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope	1.00
416: Disappear-----	60	Very limited: Frost action  Depth to saturated zone	1.00  0.94	Very limited: Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited: Excess surface organic matter Depth to saturated zone	1.00 0.94
Pioneer Peak-----	30	Somewhat limited: Frost action Depth to saturated zone	0.50 0.29	Very limited: Cutbanks cave Depth to saturated zone	1.00 1.00	Somewhat limited: Depth to saturated zone	0.19

Table 14.--Building Site Development: Site Improvements--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets (Alaska criteria)		Shallow excavations (Alaska criteria)		Lawns, landscaping, and golf fairways (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
		417: Doroshin-----	85	Very limited: Depth to saturated zone Frost action Subsidence	1.00 1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave Content of organic matter	1.00 1.00 1.00
418: Dumps, landfill-----	100	Not rated		Not rated		Not rated	
419: Eklutna-----	100	Not limited		Very limited: Cutbanks cave	1.00	Very limited: Droughty	1.00
420: Haplocryods-----	95	Very limited: Frost action Slope Depth to hard bedrock	1.00 1.00 0.90	Very limited: Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited: Slope Depth to bedrock	1.00 0.90
421: Histic Cryaquepts-----	90	Very limited: Frost action Depth to saturated zone Slope	1.00 0.94 0.01	Very limited: Depth to saturated zone Cutbanks cave Slope	1.00 1.00 0.01	Very limited: Excess surface organic matter Depth to saturated zone Slope	1.00 0.94 0.04
422: Histic Cryaquepts-----	55	Very limited: Frost action Depth to saturated zone Slope	1.00 0.94 0.01	Very limited: Depth to saturated zone Cutbanks cave Slope	1.00 1.00 0.01	Very limited: Excess surface organic matter Depth to saturated zone Slope	1.00 0.94 0.16
Hurdygurdy-----	35	Very limited: Frost action Slope	1.00 1.00	Very limited: Slope Cutbanks cave	1.00 0.10	Very limited: Slope	1.00
423: Hurdygurdy-----	70	Very limited: Frost action Slope	1.00 1.00	Very limited: Slope Cutbanks cave	1.00 0.10	Very limited: Slope	1.00
Siwash-----	15	Very limited: Frost action Slope Depth to hard bedrock	1.00 1.00 0.99	Very limited: Depth to hard bedrock Slope Depth to dense layer Cutbanks cave	1.00 1.00 0.50 0.10	Very limited: Slope Depth to bedrock	1.00 0.99
Rock outcrop-----	10	Not rated		Not rated		Not rated	
424: Icknuun, ponded-----	85	Very limited: Ponding Depth to saturated zone Subsidence Frost action	1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Content of organic matter Cutbanks cave	1.00 1.00 1.00 0.10	Very limited: Ponding Excess surface organic matter Depth to saturated zone	1.00 1.00 1.00

Table 14.--Building Site Development: Site Improvements--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns, landscaping, and golf fairways	
		(Alaska criteria)		(Alaska criteria)		(Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
425: Jacobsen-----	35	Very limited: Depth to saturated zone Frost action	1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave Depth to dense layer	1.00 1.00 0.50	Very limited: Excess surface organic matter Depth to saturated zone	1.00 1.00
Disappear-----	30	Very limited: Frost action Depth to saturated zone	1.00 0.94	Very limited: Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited: Excess surface organic matter Depth to saturated zone	1.00 0.94
Doroshin, ponded-----	20	Very limited: Ponding Depth to saturated zone Frost action Subsidence	1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Cutbanks cave Content of organic matter	1.00 1.00 1.00 1.00	Very limited: Ponding Excess surface organic matter Depth to saturated zone	1.00 1.00 1.00
426: Jacobsen-----	35	Very limited: Depth to saturated zone Frost action	1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave Depth to dense layer	1.00 1.00 0.50	Very limited: Excess surface organic matter Depth to saturated zone	1.00 1.00
Disappear-----	30	Very limited: Frost action Depth to saturated zone	1.00 0.94	Very limited: Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited: Excess surface organic matter Depth to saturated zone	1.00 0.94
Doroshin-----	25	Very limited: Depth to saturated zone Frost action Subsidence	1.00 1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave Content of organic matter	1.00 1.00 1.00	Very limited: Excess surface organic matter Depth to saturated zone	1.00 1.00
427: Jacobsen-----	35	Very limited: Depth to saturated zone Frost action Slope	1.00 1.00 0.01	Very limited: Depth to saturated zone Cutbanks cave Depth to dense layer Slope	1.00 1.00 0.50 0.01	Very limited: Excess surface organic matter Depth to saturated zone Slope	1.00 1.00 0.16
Disappear-----	30	Very limited: Frost action Depth to saturated zone Slope	1.00 0.94 0.16	Very limited: Depth to saturated zone Cutbanks cave Slope	1.00 1.00 0.16	Very limited: Excess surface organic matter Depth to saturated zone Slope	1.00 0.94 0.16
Doroshin-----	25	Very limited: Depth to saturated zone Frost action Subsidence	1.00 1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave Content of organic matter	1.00 1.00 1.00	Very limited: Excess surface organic matter Depth to saturated zone	1.00 1.00
428: Kashwitna-----	45	Very limited: Frost action	1.00	Very limited: Cutbanks cave	1.00	Not limited	
Kichatna-----	40	Not limited		Very limited: Cutbanks cave	1.00	Not limited	

Table 14.--Building Site Development: Site Improvements--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns, landscaping, and golf fairways	
		(Alaska criteria)		(Alaska criteria)		(Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
429: Kashwitna-----	60	Very limited: Frost action Slope	1.00 1.00	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope	1.00
Kichatna-----	25	Very limited: Slope	1.00	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope	1.00
430: Kashwitna-----	50	Very limited: Frost action Slope	1.00 1.00	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope	1.00
Kichatna-----	40	Very limited: Slope	1.00	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope	1.00
431: Kashwitna-----	45	Very limited: Frost action	1.00	Very limited: Cutbanks cave	1.00	Not limited	
Kichatna-----	40	Not limited		Very limited: Cutbanks cave	1.00	Not limited	
432: Kashwitna-----	70	Very limited: Frost action Slope	1.00 0.04	Very limited: Cutbanks cave Slope	1.00 0.04	Somewhat limited: Slope	0.04
Kichatna-----	25	Somewhat limited: Slope	0.04	Very limited: Cutbanks cave Slope	1.00 0.04	Somewhat limited: Slope	0.04
433: Kashwitna-----	60	Very limited: Frost action Slope	1.00 1.00	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope	1.00
Kichatna-----	30	Very limited: Slope	1.00	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope	1.00
434: Kichatna-----	45	Somewhat limited: Slope	0.01	Very limited: Cutbanks cave Slope	1.00 0.01	Somewhat limited: Slope	0.04
Pioneer Peak-----	30	Somewhat limited: Frost action Depth to saturated zone	0.50 0.29	Very limited: Cutbanks cave Depth to saturated zone	1.00 1.00	Somewhat limited: Depth to saturated zone	0.19
Jacobsen-----	15	Very limited: Depth to saturated zone Frost action	1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave Depth to dense layer	1.00 1.00 0.50	Very limited: Excess surface organic matter Depth to saturated zone	1.00 1.00
435: Matsu-----	90	Very limited: Frost action Depth to saturated zone	1.00 0.29	Very limited: Cutbanks cave Depth to saturated zone	1.00 1.00	Somewhat limited: Depth to saturated zone	0.19
436: Matsu-----	90	Very limited: Frost action Depth to saturated zone	1.00 0.29	Very limited: Cutbanks cave Depth to saturated zone	1.00 1.00	Somewhat limited: Depth to saturated zone	0.19

Table 14.--Building Site Development: Site Improvements--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns, landscaping, and golf fairways	
		(Alaska criteria)		(Alaska criteria)		(Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
437: Moose River-----	70	Very limited: Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone Cutbanks cave	1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone	1.00 1.00
Niklason-----	20	Very limited: Flooding Frost action Depth to saturated zone	1.00 0.50 0.29	Very limited: Flooding Cutbanks cave Depth to saturated zone	1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone	1.00 0.19
438: Moose River-----	70	Very limited: Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Very limited: Depth to saturated zone Flooding	1.00 0.60
Niklason-----	20	Very limited: Flooding Frost action Depth to saturated zone	1.00 0.50 0.29	Very limited: Cutbanks cave Depth to saturated zone Flooding	1.00 1.00 0.60	Somewhat limited: Flooding Depth to saturated zone	0.60 0.19
439: Nakochna-----	55	Very limited: Frost action Depth to hard bedrock Slope Low strength	1.00 1.00 1.00 0.22	Very limited: Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 1.00 0.10	Very limited: Slope Depth to bedrock	1.00 1.00
Rock outcrop-----	30	Not rated		Not rated		Not rated	
440: Pioneer Peak-----	80	Somewhat limited: Frost action Depth to saturated zone	0.50 0.29	Very limited: Cutbanks cave Depth to saturated zone	1.00 1.00	Somewhat limited: Depth to saturated zone	0.19
441: Pioneer Peak-----	80	Somewhat limited: Frost action Depth to saturated zone	0.50 0.29	Very limited: Cutbanks cave Depth to saturated zone	1.00 1.00	Somewhat limited: Depth to saturated zone	0.19
442: Pioneer Peak-----	45	Somewhat limited: Frost action Depth to saturated zone Slope	0.50 0.29 0.13	Very limited: Cutbanks cave Depth to saturated zone Slope	1.00 1.00 0.13	Very limited: Slope Depth to saturated zone	1.00 0.19
Jacobsen-----	30	Very limited: Depth to saturated zone Frost action Slope	1.00 1.00 0.13	Very limited: Depth to saturated zone Cutbanks cave Depth to dense layer Slope	1.00 1.00 0.50 0.13	Very limited: Excess surface organic matter Depth to saturated zone Slope	1.00 1.00 1.00
Doroshin-----	15	Very limited: Depth to saturated zone Frost action Subsidence Slope	1.00 1.00 1.00 0.13	Very limited: Depth to saturated zone Cutbanks cave Content of organic matter Slope	1.00 1.00 1.00 0.13	Very limited: Excess surface organic matter Depth to saturated zone Slope	1.00 1.00 1.00

Table 14.--Building Site Development: Site Improvements--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns, landscaping, and golf fairways	
		(Alaska criteria)		(Alaska criteria)		(Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
443: Pits, gravel-----	100	Not rated		Not rated		Not rated	
444: Riverwash-----	45	Not rated		Not rated		Not rated	
Niklavar, frequently flooded-----	45	Very limited: Frost action Flooding Depth to saturated zone	1.00 1.00 0.94	Very limited: Flooding Depth to saturated zone Cutbanks cave	1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone	1.00 0.94
445: Rock outcrop-----	100	Not rated		Not rated		Not rated	
446: Salamatof-----	85	Very limited: Ponding Depth to saturated zone Subsidence Frost action	1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Content of organic matter Cutbanks cave	1.00 1.00 1.00 0.10	Very limited: Ponding Excess surface organic matter Depth to saturated zone	1.00 1.00 1.00
447: Smithfha-----	85	Somewhat limited: Frost action	0.50	Very limited: Cutbanks cave	1.00	Not limited	
448: Smithfha-----	85	Somewhat limited: Frost action	0.50	Very limited: Cutbanks cave	1.00	Not limited	
449: Smithfha-----	90	Very limited: Slope Frost action	1.00 0.50	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope	1.00
450: Smithfha-----	85	Very limited: Slope Frost action	1.00 0.50	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope	1.00
451: Smithfha-----	60	Somewhat limited: Frost action Slope	0.50 0.04	Very limited: Cutbanks cave Slope	1.00 0.04	Somewhat limited: Slope	0.04
Anchorpark-----	35	Somewhat limited: Slope	0.04	Very limited: Cutbanks cave Slope	1.00 0.04	Somewhat limited: Droughty Slope	0.54 0.04
452: Susitna-----	85	Somewhat limited: Frost action Flooding	0.50 0.40	Very limited: Cutbanks cave	1.00	Not limited	
453: Susivar-----	45	Very limited: Frost action Flooding Depth to saturated zone	1.00 1.00 0.29	Very limited: Cutbanks cave Depth to saturated zone Flooding	1.00 1.00 0.60	Somewhat limited: Flooding Depth to saturated zone	0.60 0.19
Niklavar-----	45	Very limited: Frost action Flooding Depth to saturated zone	1.00 1.00 0.94	Very limited: Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Somewhat limited: Depth to saturated zone Flooding	0.94 0.60

Table 14.--Building Site Development: Site Improvements--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns, landscaping, and golf fairways	
		(Alaska criteria)		(Alaska criteria)		(Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
454: Susivar-----	70	Very limited: Frost action Flooding Depth to saturated zone	1.00 1.00 0.29	Very limited: Cutbanks cave Depth to saturated zone Flooding	1.00 1.00 0.60	Somewhat limited: Flooding Depth to saturated zone	0.60 0.19
Moose River-----	20	Very limited: Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Very limited: Depth to saturated zone Flooding	1.00 0.60
455: Talkeetna-----	45	Very limited: Frost action Slope	1.00 1.00	Very limited: Slope Cutbanks cave	1.00 0.10	Very limited: Slope	1.00
Chugach-----	20	Very limited: Slope	1.00	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope	1.00
Deneka-----	30	Very limited: Frost action  Slope Depth to hard bedrock	1.00  1.00 0.97	Very limited: Depth to hard bedrock Slope Depth to dense layer Cutbanks cave	1.00  1.00 0.50 0.10	Very limited: Slope Depth to bedrock	1.00 0.97
456: Talkeetna-----	45	Very limited: Frost action Slope	1.00 1.00	Very limited: Slope Cutbanks cave	1.00 0.10	Very limited: Slope	1.00
Chugach-----	20	Very limited: Slope	1.00	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope	1.00
Deneka-----	30	Very limited: Frost action  Slope Depth to hard bedrock	1.00  1.00 0.97	Very limited: Depth to hard bedrock Slope Depth to dense layer Cutbanks cave	1.00  1.00 0.50 0.10	Very limited: Slope Depth to bedrock	1.00 0.97
457: Talkeetna-----	45	Very limited: Slope Frost action	1.00 1.00	Very limited: Slope Cutbanks cave	1.00 0.10	Very limited: Slope	1.00
Chugach-----	20	Very limited: Slope	1.00	Very limited: Slope Cutbanks cave	1.00 1.00	Very limited: Slope	1.00
Deneka-----	30	Very limited: Slope  Frost action Depth to hard bedrock	1.00  1.00 0.97	Very limited: Depth to hard bedrock Slope Depth to dense layer Cutbanks cave	1.00  1.00 0.50 0.10	Very limited: Slope Depth to bedrock	1.00 0.97
458: Talkeetna-----	45	Very limited: Frost action Slope	1.00 0.01	Somewhat limited: Cutbanks cave Slope	0.10 0.01	Somewhat limited: Slope	0.16
Chugach-----	20	Somewhat limited: Slope	0.01	Very limited: Cutbanks cave Slope	1.00 0.01	Somewhat limited: Slope	0.16

Table 14.--Building Site Development: Site Improvements--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets (Alaska criteria)		Shallow excavations (Alaska criteria)		Lawns, landscaping, and golf fairways (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
		458: Deneka-----	30	Very limited: Frost action Depth to hard bedrock Slope	1.00 0.97 0.01	Very limited: Depth to hard bedrock Depth to dense layer Cutbanks cave Slope	1.00 0.50 0.10 0.01
459: Talkeetna-----	45	Very limited: Frost action Slope	1.00 1.00	Very limited: Slope Cutbanks cave	1.00 0.10	Very limited: Slope	1.00
Chugach-----	40	Very limited: Slope	1.00	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope	1.00
Histic Cryaquepts-----	15	Very limited: Frost action Depth to saturated zone Slope	1.00 0.94 0.13	Very limited: Depth to saturated zone Cutbanks cave Slope	1.00 1.00 0.13	Very limited: Excess surface organic matter Slope Depth to saturated zone	1.00 1.00 0.94
460: Talkeetna, cool-----	45	Very limited: Frost action Slope	1.00 1.00	Very limited: Slope Cutbanks cave	1.00 0.10	Very limited: Slope	1.00
Chugach, cool-----	40	Very limited: Slope	1.00	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope	1.00
Histic Cryaquepts-----	15	Very limited: Frost action Depth to saturated zone Slope	1.00 0.94 0.13	Very limited: Depth to saturated zone Cutbanks cave Slope	1.00 1.00 0.13	Very limited: Excess surface organic matter Slope Depth to saturated zone	1.00 1.00 0.94
461: Talkeetna-----	70	Very limited: Frost action Slope	1.00 1.00	Very limited: Slope Cutbanks cave	1.00 0.10	Very limited: Slope	1.00
Deneka-----	15	Very limited: Frost action Slope Depth to hard bedrock	1.00 1.00 0.97	Very limited: Depth to hard bedrock Slope Depth to dense layer Cutbanks cave	1.00 1.00 0.50 0.10	Very limited: Slope Depth to bedrock	1.00 0.97
Rock outcrop-----	10	Not rated		Not rated		Not rated	
462: Typic Cryaquents, tidal flats-----	70	Very limited: Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone Cutbanks cave	1.00 1.00 0.10	Very limited: Flooding Depth to saturated zone	1.00 1.00
Typic Cryaquepts, beach terrace-----	25	Very limited: Depth to saturated zone Frost action Flooding	1.00 1.00 0.40	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited: Depth to saturated zone	1.00

Table 14.--Building Site Development: Site Improvements--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets (Alaska criteria)		Shallow excavations (Alaska criteria)		Lawns, landscaping, and golf fairways (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
463: Water-----	90	Not rated		Not rated		Not rated	
464: Water, saline-----	90	Not rated		Not rated		Not rated	
465: Whitsol-----	85	Very limited: Frost action	1.00	Very limited: Cutbanks cave	1.00	Not limited	
466: Whitsol-----	80	Very limited: Frost action	1.00	Very limited: Cutbanks cave	1.00	Not limited	
467: Whitsol-----	85	Very limited: Frost action Slope	1.00 0.04	Very limited: Cutbanks cave Slope	1.00 0.04	Somewhat limited: Slope	0.04
468: Whitsol-----	85	Very limited: Frost action Slope	1.00 1.00	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope	1.00
469: Whitsol-----	85	Very limited: Frost action Slope	1.00 1.00	Very limited: Cutbanks cave Slope	1.00 1.00	Very limited: Slope	1.00

Table 15.--Sanitary Facilities: Sewage Treatment

(This table gives soil limitation ratings and the primary limiting factors associated with the ratings. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields (Alaska criteria)		Sewage lagoons (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
400: Anchorpark-----	85	Very limited: Slope Filtering capacity	1.00 0.50	Very limited: Slope Seepage	1.00 1.00
401: Andic Humicryods-----	75	Very limited: Depth to bedrock Slope Restricted permeability	1.00 1.00 0.45	Very limited: Slope Seepage	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated	
402: Clam Gulch-----	80	Very limited: Depth to saturated zone Restricted permeability	1.00 1.00	Very limited: Depth to saturated zone Slope	1.00 0.33
403: Clam Gulch-----	45	Very limited: Depth to saturated zone Restricted permeability Slope	1.00 1.00 0.01	Very limited: Depth to saturated zone Slope	1.00 1.00
Doroshin-----	35	Very limited: Depth to saturated zone Slope	1.00 0.01	Very limited: Excess surface organic matter Depth to saturated zone Seepage Slope	1.00 1.00 1.00 1.00
Jacobsen-----	15	Very limited: Depth to saturated zone Slope	1.00 0.01	Very limited: Excess surface organic matter Depth to saturated zone Seepage Slope	1.00 1.00 1.00 1.00
404: Cryosaprists, tidal flats-----	90	Very limited: Flooding Depth to saturated zone	1.00 1.00	Very limited: Flooding Excess surface organic matter Depth to saturated zone Seepage	1.00 1.00 1.00 1.00
405: Cryorthents, silty----	90	Very limited: Slope Restricted permeability	1.00 0.98	Very limited: Slope	1.00

Table 15.--Sanitary Facilities: Sewage Treatment--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields (Alaska criteria)		Sewage lagoons (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
406: Cryorthents, skeletal-	45	Somewhat limited: Restricted permeability Content of large stones	0.49 0.03	Somewhat limited: Content of large stones Slope	0.56 0.09
Urban land-----	45	Not rated		Not rated	
407: Cryorthents, skeletal-	45	Somewhat limited: Restricted permeability Slope Content of large stones	0.49 0.16 0.03	Very limited: Slope Content of large stones	1.00 0.56
Urban land-----	45	Not rated		Not rated	
408: Deception-----	55	Very limited: Slope Restricted permeability	1.00 0.31	Very limited: Slope Seepage	1.00 0.50
Cryorthents, skeletal-	45	Very limited: Slope Restricted permeability Content of large stones	1.00 0.49 0.02	Very limited: Slope Content of large stones Seepage	1.00 0.42 0.28
409: Deception-----	80	Somewhat limited: Restricted permeability Slope	0.31 0.16	Very limited: Slope Seepage	1.00 0.50
Disappear-----	10	Very limited: Depth to saturated zone Restricted permeability	1.00 0.31	Very limited: Excess surface organic matter Seepage Depth to saturated zone Slope	1.00 1.00 1.00 0.67
410: Deception-----	40	Somewhat limited: Restricted permeability	0.31	Somewhat limited: Seepage Slope	0.50 0.33
Estelle-----	35	Somewhat limited: Restricted permeability	0.31	Somewhat limited: Seepage Slope	0.50 0.33
Kichatna-----	15	Somewhat limited: Filtering capacity	0.50	Very limited: Seepage Slope	1.00 0.33
411: Deception-----	40	Very limited: Slope Restricted permeability	1.00 0.31	Very limited: Slope Seepage	1.00 0.50
Estelle-----	35	Very limited: Slope Restricted permeability	1.00 0.31	Very limited: Slope Seepage	1.00 0.50

Table 15.--Sanitary Facilities: Sewage Treatment--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields (Alaska criteria)		Sewage lagoons (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
411: Kichatna-----	15	Very limited: Slope Filtering capacity	1.00 0.50	Very limited: Slope Seepage	1.00 1.00
412: Deception-----	40	Very limited: Slope Restricted permeability	1.00 0.31	Very limited: Slope Seepage	1.00 0.50
Estelle-----	35	Very limited: Slope Restricted permeability	1.00 0.31	Very limited: Slope Seepage	1.00 0.50
Kichatna-----	15	Very limited: Slope Filtering capacity	1.00 0.50	Very limited: Slope Seepage	1.00 1.00
413: Deception-----	40	Very limited: Slope Restricted permeability	1.00 0.31	Very limited: Slope Seepage	1.00 0.50
Estelle-----	35	Very limited: Slope Restricted permeability	1.00 0.31	Very limited: Slope Seepage	1.00 0.50
Kichatna-----	15	Very limited: Slope Filtering capacity	1.00 0.50	Very limited: Slope Seepage	1.00 1.00
414: Deception-----	40	Somewhat limited: Restricted permeability Slope	0.31 0.04	Very limited: Slope Seepage	1.00 0.50
Estelle-----	35	Somewhat limited: Restricted permeability Slope	0.31 0.04	Very limited: Slope Seepage	1.00 0.50
Kichatna-----	15	Somewhat limited: Filtering capacity Slope	0.50 0.04	Very limited: Seepage Slope	1.00 1.00
415: Deception-----	40	Very limited: Slope Restricted permeability	1.00 0.31	Very limited: Slope Seepage	1.00 0.50
Estelle-----	35	Very limited: Slope Restricted permeability	1.00 0.31	Very limited: Slope Seepage	1.00 0.50
Kichatna-----	15	Very limited: Slope Filtering capacity	1.00 0.50	Very limited: Seepage Slope	1.00 1.00

Table 15.--Sanitary Facilities: Sewage Treatment--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields (Alaska criteria)		Sewage lagoons (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
416: Disappear-----	60	Very limited: Depth to saturated zone Restricted permeability	1.00 0.31	Very limited: Excess surface organic matter Seepage Depth to saturated zone Slope	1.00 1.00 1.00 0.33
Pioneer Peak-----	30	Very limited: Depth to saturated zone Filtering capacity	1.00 0.50	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.33
417: Doroshin-----	85	Very limited: Depth to saturated zone	1.00	Very limited: Excess surface organic matter Depth to saturated zone Seepage Slope	1.00 1.00 1.00 0.09
418: Dumps, landfill-----	100	Not rated		Not rated	
419: Eklutna-----	100	Somewhat limited: Filtering capacity	0.50	Very limited: Seepage Slope	1.00 0.01
420: Haplocryods-----	95	Very limited: Depth to bedrock Slope	1.00 1.00	Very limited: Slope Depth to hard bedrock Seepage Content of large stones	1.00 1.00 0.53 0.01
421: Histic Cryaquepts-----	90	Very limited: Depth to saturated zone Slope	1.00 0.04	Very limited: Excess surface organic matter Depth to saturated zone Seepage Slope	1.00 1.00 1.00 1.00
422: Histic Cryaquepts-----	55	Very limited: Depth to saturated zone Slope	1.00 0.16	Very limited: Excess surface organic matter Depth to saturated zone Slope Seepage	1.00 1.00 1.00 1.00
Hurdygurdy-----	35	Very limited: Slope Restricted permeability	1.00 0.60	Very limited: Slope Seepage	1.00 0.50

Table 15.--Sanitary Facilities: Sewage Treatment--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields (Alaska criteria)		Sewage lagoons (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
423: Hurdygurdy-----	70	Very limited: Slope Restricted permeability	1.00 0.60	Very limited: Slope Seepage	1.00 0.50
Siwash-----	15	Very limited: Depth to bedrock  Slope	1.00  1.00	Very limited: Depth to hard bedrock Slope Seepage	1.00  1.00 0.53
Rock outcrop-----	10	Not rated		Not rated	
424: Icknuun, ponded-----	85	Very limited: Ponding Depth to saturated zone	1.00 1.00	Very limited: Ponding Excess surface organic matter Depth to saturated zone Seepage	1.00 1.00 1.00 1.00
425: Jacobsen-----	35	Very limited: Depth to saturated zone	1.00	Very limited: Excess surface organic matter Depth to saturated zone Seepage Slope	1.00 1.00 1.00 0.01
Disappear-----	30	Very limited: Depth to saturated zone Restricted permeability	1.00 0.31	Very limited: Excess surface organic matter Seepage Depth to saturated zone Slope	1.00 1.00 1.00 1.00 0.01
Doroshin, ponded-----	20	Very limited: Ponding Depth to saturated zone	1.00 1.00	Very limited: Ponding Excess surface organic matter Depth to saturated zone Seepage	1.00 1.00 1.00 1.00 1.00
426: Jacobsen-----	35	Very limited: Depth to saturated zone	1.00	Very limited: Excess surface organic matter Depth to saturated zone Seepage Slope	1.00 1.00 1.00 1.00 0.67
Disappear-----	30	Very limited: Depth to saturated zone Restricted permeability	1.00 0.31	Very limited: Excess surface organic matter Seepage Depth to saturated zone Slope	1.00 1.00 1.00 1.00 0.33

Table 15.--Sanitary Facilities: Sewage Treatment--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields (Alaska criteria)		Sewage lagoons (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
426: Doroshin-----	25	Very limited: Depth to saturated zone	1.00	Very limited: Excess surface organic matter Depth to saturated zone Seepage Slope	1.00 1.00 1.00 0.67
427: Jacobsen-----	35	Very limited: Depth to saturated zone Slope	1.00 0.16	Very limited: Excess surface organic matter Depth to saturated zone Seepage Slope	1.00 1.00 1.00 1.00
Disappear-----	30	Very limited: Depth to saturated zone Restricted permeability Slope	1.00 0.31 0.16	Very limited: Excess surface organic matter Seepage Depth to saturated zone Slope	1.00 1.00 1.00 1.00
Doroshin-----	25	Very limited: Depth to saturated zone	1.00	Very limited: Excess surface organic matter Depth to saturated zone Seepage Slope	1.00 1.00 1.00 1.00
428: Kashwitna-----	45	Somewhat limited: Filtering capacity	0.50	Very limited: Seepage	1.00
Kichatna-----	40	Somewhat limited: Filtering capacity	0.50	Very limited: Seepage	1.00
429: Kashwitna-----	60	Very limited: Slope Filtering capacity	1.00 0.50	Very limited: Slope Seepage	1.00 1.00
Kichatna-----	25	Very limited: Slope Filtering capacity	1.00 0.50	Very limited: Slope Seepage	1.00 1.00
430: Kashwitna-----	50	Very limited: Slope Filtering capacity	1.00 0.50	Very limited: Slope Seepage	1.00 1.00
Kichatna-----	40	Very limited: Slope Filtering capacity	1.00 0.50	Very limited: Slope Seepage	1.00 1.00
431: Kashwitna-----	45	Somewhat limited: Filtering capacity	0.50	Very limited: Seepage Slope	1.00 0.01
Kichatna-----	40	Somewhat limited: Filtering capacity	0.50	Very limited: Seepage Slope	1.00 0.33

Table 15.--Sanitary Facilities: Sewage Treatment--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields (Alaska criteria)		Sewage lagoons (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
432: Kashwitna-----	70	Somewhat limited: Filtering capacity Slope	0.50 0.04	Very limited: Seepage Slope	1.00 1.00
Kichatna-----	25	Somewhat limited: Filtering capacity Slope	0.50 0.04	Very limited: Seepage Slope	1.00 1.00
433: Kashwitna-----	60	Very limited: Slope Filtering capacity	1.00 0.50	Very limited: Seepage Slope	1.00 1.00
Kichatna-----	30	Very limited: Slope Filtering capacity	1.00 0.50	Very limited: Seepage Slope	1.00 1.00
434: Kichatna-----	45	Somewhat limited: Filtering capacity Slope	0.50 0.04	Very limited: Seepage Slope	1.00 1.00
Pioneer Peak-----	30	Very limited: Depth to saturated zone Filtering capacity	1.00 0.50	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.67
Jacobsen-----	15	Very limited: Depth to saturated zone	1.00	Very limited: Excess surface organic matter Depth to saturated zone Seepage Slope	1.00 1.00 1.00 0.67
435: Matsu-----	90	Very limited: Depth to saturated zone Restricted permeability	1.00 0.31	Very limited: Depth to saturated zone Seepage	1.00 1.00
436: Matsu-----	90	Very limited: Depth to saturated zone Restricted permeability	1.00 0.31	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.67
437: Moose River-----	70	Very limited: Flooding Depth to saturated zone Filtering capacity Restricted permeability	1.00 1.00 0.50 0.31	Very limited: Flooding Depth to saturated zone Seepage	1.00 1.00 1.00
Niklason-----	20	Very limited: Flooding Depth to saturated zone Filtering capacity	1.00 1.00 0.50	Very limited: Flooding Seepage Depth to saturated zone	1.00 1.00 1.00

Table 15.--Sanitary Facilities: Sewage Treatment--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields (Alaska criteria)		Sewage lagoons (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
438: Moose River-----	70	Very limited: Flooding Depth to saturated zone Filtering capacity Restricted permeability	1.00 1.00 0.50 0.31	Very limited: Flooding Depth to saturated zone Seepage	1.00 1.00 1.00
Niklason-----	20	Very limited: Flooding Depth to saturated zone Filtering capacity	1.00 1.00 0.50	Very limited: Flooding Seepage Depth to saturated zone	1.00 1.00 1.00
439: Nakochna-----	55	Very limited: Depth to bedrock  Slope	1.00  1.00	Very limited: Depth to hard bedrock Slope Seepage	1.00  1.00 0.50
Rock outcrop-----	30	Not rated		Not rated	
440: Pioneer Peak-----	80	Very limited: Depth to saturated zone Filtering capacity	1.00 0.50	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.01
441: Pioneer Peak-----	80	Very limited: Depth to saturated zone Filtering capacity	1.00 0.50	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.67
442: Pioneer Peak-----	45	Very limited: Depth to saturated zone Slope Filtering capacity	1.00 1.00 0.50	Very limited: Slope Depth to saturated zone Seepage	1.00 1.00 1.00
Jacobsen-----	30	Very limited: Depth to saturated zone Slope	1.00 1.00	Very limited: Excess surface organic matter Slope Depth to saturated zone Seepage	1.00 1.00 1.00 1.00
Doroshin-----	15	Very limited: Depth to saturated zone Slope	1.00 1.00	Very limited: Excess surface organic matter Slope Depth to saturated zone Seepage	1.00 1.00 1.00 1.00
443: Pits, gravel-----	100	Not rated		Not rated	

Table 15.--Sanitary Facilities: Sewage Treatment--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields (Alaska criteria)		Sewage lagoons (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
444: Riverwash-----	45	Not rated		Not rated	
Niklavar, frequently flooded-----	45	Very limited: Flooding Depth to saturated zone Filtering capacity	1.00 1.00 0.50	Very limited: Flooding Seepage Depth to saturated zone	1.00 1.00 1.00
445: Rock outcrop-----	100	Not rated		Not rated	
446: Salamatof-----	85	Very limited: Ponding Depth to saturated zone Filtering capacity	1.00 1.00 0.50	Very limited: Ponding Excess surface organic matter Depth to saturated zone	1.00 1.00 1.00
447: Smithfha-----	85	Not limited		Very limited: Seepage	1.00
448: Smithfha-----	85	Not limited		Very limited: Seepage Slope	1.00 0.33
449: Smithfha-----	90	Very limited: Slope	1.00	Very limited: Slope Seepage	1.00 1.00
450: Smithfha-----	85	Very limited: Slope	1.00	Very limited: Seepage Slope	1.00 1.00
451: Smithfha-----	60	Somewhat limited: Slope	0.04	Very limited: Seepage Slope	1.00 1.00
Anchorpark-----	35	Somewhat limited: Filtering capacity Slope	0.50 0.04	Very limited: Seepage Slope	1.00 1.00
452: Susitna-----	85	Somewhat limited: Filtering capacity Flooding	0.50 0.40	Very limited: Seepage	1.00
453: Susivar-----	45	Very limited: Flooding Depth to saturated zone Restricted permeability	1.00 1.00 0.29	Very limited: Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
Niklavar-----	45	Very limited: Flooding Depth to saturated zone Filtering capacity	1.00 1.00 0.50	Very limited: Flooding Seepage Depth to saturated zone	1.00 1.00 1.00

Table 15.--Sanitary Facilities: Sewage Treatment--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields (Alaska criteria)		Sewage lagoons (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
		454: Susivar-----	70	Very limited: Flooding Depth to saturated zone Restricted permeability	1.00 1.00 0.29
Moose River-----	20	Very limited: Flooding Depth to saturated zone Filtering capacity Restricted permeability	1.00 1.00 0.50 0.31	Very limited: Flooding Depth to saturated zone Seepage	1.00 1.00 1.00
455: Talkeetna-----	45	Very limited: Slope Restricted permeability	1.00 0.60	Very limited: Slope Seepage	1.00 0.50
Chugach-----	20	Very limited: Slope Filtering capacity	1.00 0.50	Very limited: Slope Seepage	1.00 1.00
Deneka-----	30	Very limited: Depth to bedrock  Slope	1.00  1.00	Very limited: Depth to hard bedrock Slope Seepage	1.00  1.00 0.53
456: Talkeetna-----	45	Very limited: Slope Restricted permeability	1.00 0.60	Very limited: Slope Seepage	1.00 0.50
Chugach-----	20	Very limited: Slope Filtering capacity	1.00 0.50	Very limited: Slope Seepage	1.00 1.00
Deneka-----	30	Very limited: Depth to bedrock  Slope	1.00  1.00	Very limited: Depth to hard bedrock Slope Seepage	1.00  1.00 0.53
457: Talkeetna-----	45	Very limited: Slope Restricted permeability	1.00 0.60	Very limited: Slope Seepage	1.00 0.50
Chugach-----	20	Very limited: Slope Filtering capacity	1.00 0.50	Very limited: Slope Seepage	1.00 1.00
Deneka-----	30	Very limited: Depth to bedrock  Slope	1.00  1.00	Very limited: Depth to hard bedrock Slope Seepage	1.00  1.00 0.53

Table 15.--Sanitary Facilities: Sewage Treatment--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields (Alaska criteria)		Sewage lagoons (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
458: Talkeetna-----	45	Somewhat limited: Restricted permeability Slope	0.60 0.16	Very limited: Slope Seepage	1.00 0.50
Chugach-----	20	Somewhat limited: Filtering capacity Slope	0.50 0.16	Very limited: Seepage Slope	1.00 1.00
Deneka-----	30	Very limited: Depth to bedrock  Slope	1.00  0.16	Very limited: Depth to hard bedrock Slope Seepage	1.00  1.00 0.53
459: Talkeetna-----	45	Very limited: Slope Restricted permeability	1.00 0.60	Very limited: Slope Seepage	1.00 0.50
Chugach-----	40	Very limited: Slope Filtering capacity	1.00 0.50	Very limited: Slope Seepage	1.00 1.00
Histic Cryaquepts----	15	Very limited: Depth to saturated zone Slope	1.00 1.00	Very limited: Excess surface organic matter Slope Depth to saturated zone Seepage	1.00 1.00 1.00 1.00
460: Talkeetna, cool-----	45	Very limited: Slope Restricted permeability	1.00 0.60	Very limited: Slope Seepage	1.00 0.50
Chugach, cool-----	40	Very limited: Slope Filtering capacity	1.00 0.50	Very limited: Slope Seepage	1.00 1.00
Histic Cryaquepts----	15	Very limited: Depth to saturated zone Slope	1.00 1.00	Very limited: Excess surface organic matter Slope Depth to saturated zone Seepage	1.00 1.00 1.00 1.00
461: Talkeetna-----	70	Very limited: Slope Restricted permeability	1.00 0.60	Very limited: Slope Seepage	1.00 0.50
Deneka-----	15	Very limited: Depth to bedrock  Slope	1.00  1.00	Very limited: Depth to hard bedrock Slope Seepage	1.00  1.00 0.53
Rock outcrop-----	10	Not rated		Not rated	

Table 15.--Sanitary Facilities: Sewage Treatment--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields (Alaska criteria)		Sewage lagoons (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
462: Typic Cryaquepts, tidal flats-----	70	Very limited: Flooding Depth to saturated zone Restricted permeability	1.00 1.00 0.31	Very limited: Flooding Depth to saturated zone Seepage	1.00 1.00 0.50
Typic Cryaquepts, beach terrace-----	25	Very limited: Depth to saturated zone Flooding Restricted permeability	1.00 0.40 0.31	Very limited: Depth to saturated zone Seepage	1.00 0.50
463: Water-----	90	Not rated		Not rated	
464: Water, saline-----	90	Not rated		Not rated	
465: Whitsol-----	85	Not limited		Very limited: Seepage	1.00
466: Whitsol-----	80	Not limited		Very limited: Seepage Slope	1.00 0.67
467: Whitsol-----	85	Somewhat limited: Slope	0.04	Very limited: Slope Seepage	1.00 1.00
468: Whitsol-----	85	Very limited: Slope	1.00	Very limited: Slope Seepage	1.00 1.00
469: Whitsol-----	85	Very limited: Slope	1.00	Very limited: Slope Seepage	1.00 1.00

Table 16.--Sanitary Facilities: Landfill

(This table gives soil limitation ratings and the primary limiting factors associated with the ratings. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Alaska criteria)		Area sanitary landfill (Alaska criteria)		Daily cover for landfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
400: Anchorpark-----	85	Very limited: Seepage Too Sandy, caving Slope	1.00 1.00 1.00	Very limited: Seepage Slope	1.00 1.00	Very limited: Too Sandy Seepage Slope	1.00 1.00 1.00
401: Andic Humicryods-----	75	Very limited: Slope Cobble content	1.00 0.04	Very limited: Slope	1.00	Very limited: Slope Gravel content	1.00 0.12
Rock outcrop-----	15	Not rated		Not rated		Not rated	
402: Clam Gulch-----	80	Very limited: Depth to saturated zone Clayey	1.00 0.50	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone Too clayey	1.00 0.50
403: Clam Gulch-----	45	Very limited: Depth to saturated zone Clayey	1.00 0.50	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone Too clayey	1.00 0.50
Doroshin-----	35	Very limited: Depth to saturated zone Organic material Seepage	1.00 1.00 1.00	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone Content of organic matter Seepage	1.00 1.00 0.50
Jacobsen-----	15	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone Gravel content Seepage	1.00 0.96 0.50
404: Cryosaprists, tidal flats-----	90	Very limited: Flooding Depth to saturated zone Organic material Seepage	1.00 1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited: Depth to saturated zone Content of organic matter Seepage	1.00 1.00 1.00 0.50
405: Cryorthents, silty----	90	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
406: Cryorthents, skeletal-	45	Somewhat limited: Cobble content	0.50	Not limited		Somewhat limited: Gravel content Content of large stones	0.85 0.03
Urban land-----	45	Not rated		Not rated		Not rated	

Table 16.--Sanitary Facilities: Landfill--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Alaska criteria)		Area sanitary landfill (Alaska criteria)		Daily cover for landfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
407: Cryorthents, skeletal-	45	Somewhat limited: Cobble content Slope	0.50 0.16	Somewhat limited: Slope	0.16	Somewhat limited: Gravel content Slope Content of large stones	0.85 0.16 0.03
Urban land-----	45	Not rated		Not rated		Not rated	
408: Deception-----	55	Very limited: Slope Cobble content	1.00 0.28	Very limited: Slope	1.00	Very limited: Slope Gravel content Content of large stones	1.00 0.54 0.01
Cryorthents, skeletal-	45	Very limited: Slope Cobble content	1.00 0.47	Very limited: Slope	1.00	Very limited: Slope Gravel content Content of large stones	1.00 0.83 0.02
409: Deception-----	80	Somewhat limited: Cobble content Slope	0.28 0.16	Somewhat limited: Slope	0.16	Somewhat limited: Gravel content Slope Content of large stones	0.54 0.16 0.01
Disappear-----	10	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
410: Deception-----	40	Somewhat limited: Cobble content	0.28	Not limited		Somewhat limited: Gravel content Content of large stones	0.54 0.01
Estelle-----	35	Not limited		Not limited		Somewhat limited: Gravel content	0.49
Kichatna-----	15	Very limited: Seepage Too Sandy, caving Cobble content	1.00 1.00 0.09	Very limited: Seepage	1.00	Very limited: Too Sandy Seepage Gravel content	1.00 1.00 0.78
411: Deception-----	40	Very limited: Slope Cobble content	1.00 0.28	Very limited: Slope	1.00	Very limited: Slope Gravel content Content of large stones	1.00 0.54 0.01
Estelle-----	35	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope Gravel content	1.00 0.49
Kichatna-----	15	Very limited: Seepage Too Sandy, caving Slope Cobble content	1.00 1.00 1.00 0.09	Very limited: Seepage Slope	1.00 1.00	Very limited: Too Sandy Seepage Slope Gravel content	1.00 1.00 1.00 0.78

Table 16.--Sanitary Facilities: Landfill--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Alaska criteria)		Area sanitary landfill (Alaska criteria)		Daily cover for landfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
		412:					
Deception-----	40	Very limited: Slope Cobble content	1.00 0.28	Very limited: Slope	1.00	Very limited: Slope Gravel content Content of large stones	1.00 0.54 0.01
Estelle-----	35	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope Gravel content	1.00 0.49
Kichatna-----	15	Very limited: Seepage Too Sandy, caving Slope Cobble content	1.00 1.00 1.00 0.09	Very limited: Seepage Slope	1.00 1.00	Very limited: Too Sandy Seepage Slope Gravel content	1.00 1.00 1.00 0.78
413:							
Deception-----	40	Very limited: Slope Cobble content	1.00 0.28	Very limited: Slope	1.00	Very limited: Slope Gravel content Content of large stones	1.00 0.54 0.01
Estelle-----	35	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope Gravel content	1.00 0.49
Kichatna-----	15	Very limited: Slope Seepage Too Sandy, caving Cobble content	1.00 1.00 1.00 0.09	Very limited: Slope Seepage	1.00 1.00	Very limited: Slope Too Sandy Seepage Gravel content	1.00 1.00 1.00 0.78
414:							
Deception-----	40	Somewhat limited: Cobble content Slope	0.28 0.04	Somewhat limited: Slope	0.04	Somewhat limited: Gravel content Slope Content of large stones	0.54 0.04 0.01
Estelle-----	35	Somewhat limited: Slope	0.04	Somewhat limited: Slope	0.04	Somewhat limited: Gravel content Slope	0.49 0.04
Kichatna-----	15	Very limited: Seepage Too Sandy, caving Cobble content Slope	1.00 1.00 0.09 0.04	Very limited: Seepage Slope	1.00 0.04	Very limited: Too Sandy Seepage Gravel content Slope	1.00 1.00 0.78 0.04
415:							
Deception-----	40	Very limited: Slope Cobble content	1.00 0.28	Very limited: Slope	1.00	Very limited: Slope Gravel content Content of large stones	1.00 0.54 0.01
Estelle-----	35	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope Gravel content	1.00 0.49
Kichatna-----	15	Very limited: Seepage Too Sandy, caving Slope Cobble content	1.00 1.00 1.00 0.09	Very limited: Seepage Slope	1.00 1.00	Very limited: Too Sandy Seepage Slope Gravel content	1.00 1.00 1.00 0.78

Table 16.--Sanitary Facilities: Landfill--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Alaska criteria)		Area sanitary landfill (Alaska criteria)		Daily cover for landfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
416: Disappear-----	60	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
Pioneer Peak-----	30	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Seepage Depth to saturated zone Gravel content	1.00 0.88 0.06
417: Doroshin-----	85	Very limited: Depth to saturated zone Organic material Seepage	1.00 1.00 1.00	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone Content of organic matter Seepage	1.00 1.00 0.50
418: Dumps, landfill-----	100	Not rated		Not rated		Not rated	
419: Eklutna-----	100	Very limited: Seepage Too Sandy, caving	1.00 1.00	Very limited: Seepage	1.00	Very limited: Too Sandy Seepage Gravel content	1.00 1.00 1.00
420: Haplocryods-----	95	Very limited: Depth to bedrock Slope	1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00
421: Histic Cryaquepts----	90	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.01	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.01	Very limited: Depth to saturated zone Seepage Slope	1.00 0.21 0.01
422: Histic Cryaquepts----	55	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.01	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.01	Very limited: Depth to saturated zone Seepage Slope	1.00 0.21 0.01
Hurdygurdy-----	35	Very limited: Slope Cobble content	1.00 0.03	Very limited: Slope	1.00	Very limited: Slope Gravel content	1.00 0.10
423: Hurdygurdy-----	70	Very limited: Slope Cobble content	1.00 0.03	Very limited: Slope	1.00	Very limited: Slope Gravel content	1.00 0.10
Siwash-----	15	Very limited: Depth to bedrock Slope	1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00
Rock outcrop-----	10	Not rated		Not rated		Not rated	

Table 16.--Sanitary Facilities: Landfill--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Alaska criteria)		Area sanitary landfill (Alaska criteria)		Daily cover for landfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
424: Icknuun, ponded-----	85	Very limited: Depth to saturated zone Ponding Organic material Seepage	1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Content of organic matter Seepage	1.00 1.00 1.00 0.50
425: Jacobsen-----	35	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone Gravel content Seepage	1.00 0.96 0.50
Disappear-----	30	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
Doroshin, ponded-----	20	Very limited: Depth to saturated zone Ponding Organic material Seepage	1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Content of organic matter Seepage	1.00 1.00 1.00 0.50
426: Jacobsen-----	35	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone Gravel content Seepage	1.00 0.96 0.50
Disappear-----	30	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
Doroshin-----	25	Very limited: Depth to saturated zone Organic material Seepage	1.00 1.00 1.00	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone Content of organic matter Seepage	1.00 1.00 0.50
427: Jacobsen-----	35	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.01	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.01	Very limited: Depth to saturated zone Gravel content Seepage Slope	1.00 0.96 0.50 0.01
Disappear-----	30	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.16	Very limited: Depth to saturated zone Slope	1.00 0.16	Very limited: Depth to saturated zone Slope	1.00 0.16
Doroshin-----	25	Very limited: Depth to saturated zone Organic material Seepage	1.00 1.00 1.00	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone Content of organic matter Seepage	1.00 1.00 0.50

Table 16.--Sanitary Facilities: Landfill--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Alaska criteria)		Area sanitary landfill (Alaska criteria)		Daily cover for landfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
428: Kashwitna-----	45	Very limited: Seepage Too Sandy, caving Cobble content	1.00 1.00 0.04	Very limited: Seepage	1.00	Very limited: Too Sandy Seepage Gravel content	1.00 1.00 0.57
Kichatna-----	40	Very limited: Seepage Too Sandy, caving Cobble content	1.00 1.00 0.09	Very limited: Seepage	1.00	Very limited: Too Sandy Seepage Gravel content	1.00 1.00 0.78
429: Kashwitna-----	60	Very limited: Seepage Too Sandy, caving Slope Cobble content	1.00 1.00 1.00 0.04	Very limited: Seepage Slope	1.00 1.00	Very limited: Too Sandy Seepage Slope Gravel content	1.00 1.00 1.00 0.57
Kichatna-----	25	Very limited: Seepage Too Sandy, caving Slope Cobble content	1.00 1.00 1.00 0.09	Very limited: Seepage Slope	1.00 1.00	Very limited: Too Sandy Seepage Slope Gravel content	1.00 1.00 1.00 0.78
430: Kashwitna-----	50	Very limited: Seepage Too Sandy, caving Slope Cobble content	1.00 1.00 1.00 0.04	Very limited: Seepage Slope	1.00 1.00	Very limited: Too Sandy Seepage Slope Gravel content	1.00 1.00 1.00 0.57
Kichatna-----	40	Very limited: Seepage Too Sandy, caving Slope Cobble content	1.00 1.00 1.00 0.09	Very limited: Seepage Slope	1.00 1.00	Very limited: Too Sandy Seepage Slope Gravel content	1.00 1.00 1.00 0.78
431: Kashwitna-----	45	Very limited: Seepage Too Sandy, caving Cobble content	1.00 1.00 0.04	Very limited: Seepage	1.00	Very limited: Too Sandy Seepage Gravel content	1.00 1.00 0.57
Kichatna-----	40	Very limited: Seepage Too Sandy, caving Cobble content	1.00 1.00 0.09	Very limited: Seepage	1.00	Very limited: Too Sandy Seepage Gravel content	1.00 1.00 0.78
432: Kashwitna-----	70	Very limited: Seepage Too Sandy, caving Slope Cobble content	1.00 1.00 0.04 0.04	Very limited: Seepage Slope	1.00 0.04	Very limited: Too Sandy Seepage Gravel content Slope	1.00 1.00 0.57 0.04
Kichatna-----	25	Very limited: Seepage Too Sandy, caving Cobble content Slope	1.00 1.00 0.09 0.04	Very limited: Seepage Slope	1.00 0.04	Very limited: Too Sandy Seepage Gravel content Slope	1.00 1.00 0.78 0.04
433: Kashwitna-----	60	Very limited: Seepage Too Sandy, caving Slope Cobble content	1.00 1.00 1.00 0.04	Very limited: Seepage Slope	1.00 1.00	Very limited: Too Sandy Seepage Slope Gravel content	1.00 1.00 1.00 0.57

Table 16.--Sanitary Facilities: Landfill--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Alaska criteria)		Area sanitary landfill (Alaska criteria)		Daily cover for landfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
433: Kichatna-----	30	Very limited: Seepage Too Sandy, caving Slope Cobble content	1.00 1.00 1.00 0.09	Very limited: Seepage Slope	1.00 1.00	Very limited: Too Sandy Seepage Slope Gravel content	1.00 1.00 1.00 0.78
434: Kichatna-----	45	Very limited: Seepage Too Sandy, caving Cobble content Slope	1.00 1.00 0.09 0.01	Very limited: Seepage Slope	1.00 0.01	Very limited: Too Sandy Seepage Gravel content Slope	1.00 1.00 0.78 0.01
Pioneer Peak-----	30	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Seepage Depth to saturated zone Gravel content	1.00 0.88 0.06
Jacobsen-----	15	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone Gravel content Seepage	1.00 0.96 0.50
435: Matsu-----	90	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Somewhat limited: Depth to saturated zone	0.88
436: Matsu-----	90	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Somewhat limited: Depth to saturated zone	0.88
437: Moose River-----	70	Very limited: Flooding Depth to saturated zone Too Sandy, caving Seepage	1.00 1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone Too Sandy	1.00 1.00
Niklason-----	20	Very limited: Flooding Depth to saturated zone Seepage Too Sandy, caving	1.00 1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited: Too Sandy Seepage Depth to saturated zone Gravel content	1.00 1.00 0.88 0.06
438: Moose River-----	70	Very limited: Flooding Depth to saturated zone Too Sandy, caving Seepage	1.00 1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone Too Sandy	1.00 1.00
Niklason-----	20	Very limited: Flooding Depth to saturated zone Seepage Too Sandy, caving	1.00 1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited: Too Sandy Seepage Depth to saturated zone Gravel content	1.00 1.00 0.88 0.06

Table 16.--Sanitary Facilities: Landfill--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Alaska criteria)		Area sanitary landfill (Alaska criteria)		Daily cover for landfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
439: Nakochna-----	55	Very limited: Depth to bedrock Slope	1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00	Very limited: Depth to bedrock Slope Hard to compact	1.00 1.00 1.00
Rock outcrop-----	30	Not rated		Not rated		Not rated	
440: Pioneer Peak-----	80	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Seepage Depth to saturated zone Gravel content	1.00 0.88 0.06
441: Pioneer Peak-----	80	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Depth to saturated zone Seepage	1.00 1.00	Very limited: Seepage Depth to saturated zone Gravel content	1.00 0.88 0.06
442: Pioneer Peak-----	45	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.13	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.13	Very limited: Seepage Depth to saturated zone Slope Gravel content	1.00 0.88 0.13 0.06
Jacobsen-----	30	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.13	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.13	Very limited: Depth to saturated zone Gravel content Seepage Slope	1.00 0.96 0.50 0.13
Doroshin-----	15	Very limited: Depth to saturated zone Organic material Seepage Slope	1.00 1.00 1.00 0.13	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.13	Very limited: Depth to saturated zone Content of organic matter Seepage Slope	1.00 1.00 0.50 0.13
443: Pits, gravel-----	100	Not rated		Not rated		Not rated	
444: Riverwash-----	45	Not rated		Not rated		Not rated	
Niklavar, frequently flooded-----	45	Very limited: Flooding Depth to saturated zone Seepage Too Sandy, caving	1.00 1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited: Depth to saturated zone Too Sandy Seepage Gravel content	1.00 1.00 1.00 0.01
445: Rock outcrop-----	100	Not rated		Not rated		Not rated	

Table 16.--Sanitary Facilities: Landfill--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Alaska criteria)		Area sanitary landfill (Alaska criteria)		Daily cover for landfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
446: Salamatof-----	85	Very limited: Depth to saturated zone Ponding Seepage Organic material	1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Seepage Content of organic matter	1.00 1.00 1.00 1.00
447: Smithfha-----	85	Very limited: Seepage Too Sandy, caving	1.00 0.50	Very limited: Seepage	1.00	Somewhat limited: Seepage	0.50
448: Smithfha-----	85	Very limited: Seepage Too Sandy, caving	1.00 0.50	Very limited: Seepage	1.00	Somewhat limited: Seepage	0.50
449: Smithfha-----	90	Very limited: Slope Seepage Too Sandy, caving	1.00 1.00 0.50	Very limited: Slope Seepage	1.00 1.00	Very limited: Slope Seepage	1.00 0.50
450: Smithfha-----	85	Very limited: Slope Seepage Too Sandy, caving	1.00 1.00 0.50	Very limited: Slope Seepage	1.00 1.00	Very limited: Slope Seepage	1.00 0.50
451: Smithfha-----	60	Very limited: Seepage Too Sandy, caving Slope	1.00 0.50 0.04	Very limited: Seepage Slope	1.00 0.04	Somewhat limited: Seepage Slope	0.50 0.04
Anchorpark-----	35	Very limited: Seepage Too Sandy, caving Slope	1.00 1.00 0.04	Very limited: Seepage Slope	1.00 0.04	Very limited: Too Sandy Seepage Slope	1.00 1.00 0.04
452: Susitna-----	85	Very limited: Seepage Too Sandy, caving Flooding	1.00 0.50 0.40	Somewhat limited: Flooding	0.40	Somewhat limited: Too Sandy	0.50
453: Susivar-----	45	Very limited: Flooding Depth to saturated zone Too Sandy, caving	1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone	1.00 1.00	Very limited: Too Sandy Depth to saturated zone	1.00 0.88
Niklavar-----	45	Very limited: Flooding Depth to saturated zone Seepage Too Sandy, caving	1.00 1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited: Depth to saturated zone Too Sandy Seepage Gravel content	1.00 1.00 1.00 0.01
454: Susivar-----	70	Very limited: Flooding Depth to saturated zone Too Sandy, caving	1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone	1.00 1.00	Very limited: Too Sandy Depth to saturated zone	1.00 0.88

Table 16.--Sanitary Facilities: Landfill--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Alaska criteria)		Area sanitary landfill (Alaska criteria)		Daily cover for landfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
454: Moose River-----	20	Very limited: Flooding	1.00	Very limited: Flooding	1.00	Very limited: Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too Sandy	1.00
		Too Sandy, caving	1.00				
		Seepage	1.00				
455: Talkeetna-----	45	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
		Cobble content	0.03			Gravel content	0.10
Chugach-----	20	Very limited: Seepage	1.00	Very limited: Seepage	1.00	Very limited: Too Sandy	1.00
		Too Sandy, caving	1.00	Slope	1.00	Seepage	1.00
		Slope	1.00			Slope	1.00
		Cobble content	0.17			Gravel content	0.63
Deneka-----	30	Very limited: Depth to bedrock	1.00	Very limited: Depth to bedrock	1.00	Very limited: Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Hard to compact	1.00
456: Talkeetna-----	45	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
		Cobble content	0.03			Gravel content	0.10
Chugach-----	20	Very limited: Seepage	1.00	Very limited: Seepage	1.00	Very limited: Too Sandy	1.00
		Too Sandy, caving	1.00	Slope	1.00	Seepage	1.00
		Slope	1.00			Slope	1.00
		Cobble content	0.17			Gravel content	0.63
Deneka-----	30	Very limited: Depth to bedrock	1.00	Very limited: Depth to bedrock	1.00	Very limited: Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Hard to compact	1.00
457: Talkeetna-----	45	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
		Cobble content	0.03			Gravel content	0.10
Chugach-----	20	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
		Seepage	1.00	Seepage	1.00	Too Sandy	1.00
		Too Sandy, caving	1.00			Seepage	1.00
		Cobble content	0.17			Gravel content	0.63
Deneka-----	30	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Hard to compact	1.00
458: Talkeetna-----	45	Somewhat limited: Cobble content	0.03	Somewhat limited: Slope	0.01	Somewhat limited: Gravel content	0.10
		Slope	0.01			Slope	0.01
Chugach-----	20	Very limited: Seepage	1.00	Very limited: Seepage	1.00	Very limited: Too Sandy	1.00
		Too Sandy, caving	1.00	Slope	0.01	Seepage	1.00
		Cobble content	0.17			Gravel content	0.63
		Slope	0.01			Slope	0.01

Table 16.--Sanitary Facilities: Landfill--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Alaska criteria)		Area sanitary landfill (Alaska criteria)		Daily cover for landfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
458: Deneka-----	30	Very limited: Depth to bedrock Slope	1.00 0.01	Very limited: Depth to bedrock Slope	1.00 0.01	Very limited: Depth to bedrock Hard to compact Slope	1.00 1.00 0.01
459: Talkeetna-----	45	Very limited: Slope Cobble content	1.00 0.03	Very limited: Slope	1.00	Very limited: Slope Gravel content	1.00 0.10
Chugach-----	40	Very limited: Seepage Too Sandy, caving Slope Cobble content	1.00 1.00 1.00 0.17	Very limited: Seepage Slope	1.00 1.00	Very limited: Too Sandy Seepage Slope Gravel content	1.00 1.00 1.00 0.63
Histic Cryaquepts-----	15	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.13	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.13	Very limited: Depth to saturated zone Seepage Slope	1.00 0.21 0.13
460: Talkeetna, cool-----	45	Very limited: Slope Cobble content	1.00 0.03	Very limited: Slope	1.00	Very limited: Slope Gravel content	1.00 0.10
Chugach, cool-----	40	Very limited: Seepage Too Sandy, caving Slope Cobble content	1.00 1.00 1.00 0.17	Very limited: Seepage Slope	1.00 1.00	Very limited: Too Sandy Seepage Slope Gravel content	1.00 1.00 1.00 0.63
Histic Cryaquepts-----	15	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.13	Very limited: Depth to saturated zone Seepage Slope	1.00 1.00 0.13	Very limited: Depth to saturated zone Seepage Slope	1.00 0.21 0.13
461: Talkeetna-----	70	Very limited: Slope Cobble content	1.00 0.03	Very limited: Slope	1.00	Very limited: Slope Gravel content	1.00 0.10
Deneka-----	15	Very limited: Depth to bedrock Slope	1.00 1.00	Very limited: Depth to bedrock Slope	1.00 1.00	Very limited: Depth to bedrock Slope Hard to compact	1.00 1.00 1.00
Rock outcrop-----	10	Not rated		Not rated		Not rated	
462: Typic Cryaquents, tidal flats-----	70	Very limited:  Flooding  Depth to saturated zone	  1.00  1.00	Very limited:  Flooding  Depth to saturated zone	  1.00  1.00	Very limited:  Depth to saturated zone	  1.00
Typic Cryaquepts, beach terrace-----	25	Very limited:  Depth to saturated zone Flooding	  1.00 0.40	Very limited:  Depth to saturated zone Flooding	  1.00 0.40	Very limited:  Depth to saturated zone	  1.00
463: Water-----	90	Not rated		Not rated		Not rated	

Table 16.--Sanitary Facilities: Landfill--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill (Alaska criteria)		Area sanitary landfill (Alaska criteria)		Daily cover for landfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
464: Water, saline-----	90	Not rated		Not rated		Not rated	
465: Whitsol-----	85	Very limited: Seepage	1.00	Very limited: Seepage	1.00	Somewhat limited: Seepage	0.21
466: Whitsol-----	80	Very limited: Seepage	1.00	Very limited: Seepage	1.00	Somewhat limited: Seepage	0.21
467: Whitsol-----	85	Very limited: Seepage Slope	1.00 0.04	Very limited: Seepage Slope	1.00 0.04	Somewhat limited: Seepage Slope	0.21 0.04
468: Whitsol-----	85	Very limited: Slope Seepage	1.00 1.00	Very limited: Slope Seepage	1.00 1.00	Very limited: Slope Seepage	1.00 0.21
469: Whitsol-----	85	Very limited: Slope Seepage	1.00 1.00	Very limited: Slope Seepage	1.00 1.00	Very limited: Slope Seepage	1.00 0.21

Table 17.--Construction Materials: Gravel and Sand

(This table gives soil suitability ratings and the primary limiting factors associated with the ratings. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the potential limitation. Information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel  (Alaska criteria)		Potential source of sand  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
400: Anchorpark-----	85	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
401: Andic Humicryods-----	75	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Rock outcrop-----	15	Not rated		Not rated	
402: Clam Gulch-----	80	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
403: Clam Gulch-----	45	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Doroshin-----	35	Improbable: Organic soil Bottom layer not a source	0.00 0.00	Improbable: Organic soil Bottom layer not a source	0.00 0.00
Jacobsen-----	15	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
404: Cryosaprists, tidal flats-----	90	Improbable: Organic soil Bottom layer not a source	0.00 0.00	Improbable: Organic soil Bottom layer not a source	0.00 0.00
405: Cryorthents, silty----	90	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
406: Cryorthents, skeletal-	45	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Urban land-----	45	Not rated		Not rated	
407: Cryorthents, skeletal-	45	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Urban land-----	45	Not rated		Not rated	
408: Deception-----	55	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00

Table 17.--Construction Materials: Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		(Alaska criteria)		(Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
408: Cryorthents, skeletal-	45	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
409: Deception-----	80	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Disappear-----	10	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
410: Deception-----	40	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Estelle-----	35	Gravel source		Improbable: Bottom layer not a source	0.00
Kichatna-----	15	Gravel source		Improbable: Bottom layer not a source	0.00
411: Deception-----	40	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Estelle-----	35	Gravel source		Improbable: Bottom layer not a source	0.00
Kichatna-----	15	Gravel source		Improbable: Bottom layer not a source	0.00
412: Deception-----	40	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Estelle-----	35	Gravel source		Improbable: Bottom layer not a source	0.00
Kichatna-----	15	Gravel source		Improbable: Bottom layer not a source	0.00
413: Deception-----	40	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Estelle-----	35	Gravel source		Improbable: Bottom layer not a source	0.00
Kichatna-----	15	Gravel source		Improbable: Bottom layer not a source	0.00

Table 17.--Construction Materials: Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel (Alaska criteria)		Potential source of sand (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
414: Deception-----	40	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Estelle-----	35	Gravel source		Improbable: Bottom layer not a source	0.00
Kichatna-----	15	Gravel source		Improbable: Bottom layer not a source	0.00
415: Deception-----	40	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Estelle-----	35	Gravel source		Improbable: Bottom layer not a source	0.00
Kichatna-----	15	Gravel source		Improbable: Bottom layer not a source	0.00
416: Disappear-----	60	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Pioneer Peak-----	30	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
417: Doroshin-----	85	Improbable: Organic soil Bottom layer not a source	0.00 0.00	Improbable: Organic soil Bottom layer not a source	0.00 0.00
418: Dumps, landfill-----	100	Not rated		Not rated	
419: Eklutna-----	100	Gravel source		Improbable: Bottom layer not a source	0.00
420: Haplocryods-----	95	Improbable: Bottom layer not a source Hard bedrock within 4 feet	0.00 0.00	Improbable: Bottom layer not a source Hard bedrock within 4 feet	0.00 0.00
421: Histic Cryaquepts----	90	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
422: Histic Cryaquepts----	55	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Hurdygurdy-----	35	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00

Table 17.--Construction Materials: Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		(Alaska criteria)		(Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
423: Hurdygurdy-----	70	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Siwash-----	15	Improbable: Hard bedrock within 4 feet Bottom layer not a source	0.00 0.00	Improbable: Bottom layer not a source Hard bedrock within 4 feet	0.00 0.00
Rock outcrop-----	10	Not rated		Not rated	
424: Icknuun, ponded-----	85	Improbable: Organic soil Bottom layer not a source	0.00 0.00	Improbable: Organic soil Bottom layer not a source	0.00 0.00
425: Jacobsen-----	35	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Disappear-----	30	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Doroshin, ponded-----	20	Improbable: Organic soil Bottom layer not a source	0.00 0.00	Improbable: Organic soil Bottom layer not a source	0.00 0.00
426: Jacobsen-----	35	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Disappear-----	30	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Doroshin-----	25	Improbable: Organic soil Bottom layer not a source	0.00 0.00	Improbable: Organic soil Bottom layer not a source	0.00 0.00
427: Jacobsen-----	35	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Disappear-----	30	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Doroshin-----	25	Improbable: Organic soil Bottom layer not a source	0.00 0.00	Improbable: Organic soil Bottom layer not a source	0.00 0.00
428: Kashwitna-----	45	Gravel source		Improbable: Bottom layer not a source	0.00
Kichatna-----	40	Gravel source		Improbable: Bottom layer not a source	0.00

Table 17.--Construction Materials: Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		(Alaska criteria)		(Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
429: Kashwitna-----	60	Gravel source		Improbable: Bottom layer not a source	0.00
Kichatna-----	25	Gravel source		Improbable: Bottom layer not a source	0.00
430: Kashwitna-----	50	Gravel source		Improbable: Bottom layer not a source	0.00
Kichatna-----	40	Gravel source		Improbable: Bottom layer not a source	0.00
431: Kashwitna-----	45	Gravel source		Improbable: Bottom layer not a source	0.00
Kichatna-----	40	Gravel source		Improbable: Bottom layer not a source	0.00
432: Kashwitna-----	70	Gravel source		Improbable: Bottom layer not a source	0.00
Kichatna-----	25	Gravel source		Improbable: Bottom layer not a source	0.00
433: Kashwitna-----	60	Gravel source		Improbable: Bottom layer not a source	0.00
Kichatna-----	30	Gravel source		Improbable: Bottom layer not a source	0.00
434: Kichatna-----	45	Gravel source		Improbable: Bottom layer not a source	0.00
Pioneer Peak-----	30	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Jacobsen-----	15	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
435: Matsu-----	90	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
436: Matsu-----	90	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00

Table 17.--Construction Materials: Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		(Alaska criteria)		(Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
437: Moose River-----	70	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Niklason-----	20	Gravel source		Improbable: Bottom layer not a source	0.00
438: Moose River-----	70	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Niklason-----	20	Gravel source		Improbable: Bottom layer not a source	0.00
439: Nakochna-----	55	Improbable: Hard bedrock within 4 feet	0.00	Improbable: Bottom layer not a source	0.00
		Bottom layer not a source	0.00	Hard bedrock within 4 feet	0.00
Rock outcrop-----	30	Not rated		Not rated	
440: Pioneer Peak-----	80	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
441: Pioneer Peak-----	80	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
442: Pioneer Peak-----	45	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Jacobsen-----	30	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Doroshin-----	15	Improbable: Organic soil	0.00	Improbable: Organic soil	0.00
		Bottom layer not a source	0.00	Bottom layer not a source	0.00
443: Pits, gravel-----	100	Not rated		Not rated	
444: Riverwash-----	45	Not rated		Not rated	
Niklavar, frequently flooded-----	45	Gravel source		Probable: Bottom layer	0.43
445: Rock outcrop-----	100	Not rated		Not rated	
446: Salamatof-----	85	Improbable: Organic soil	0.00	Improbable: Organic soil	0.00
		Bottom layer not a source	0.00	Bottom layer not a source	0.00

Table 17.--Construction Materials: Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel  (Alaska criteria)		Potential source of sand  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
447: Smithfha-----	85	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
448: Smithfha-----	85	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
449: Smithfha-----	90	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
450: Smithfha-----	85	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
451: Smithfha-----	60	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Anchorpark-----	35	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
452: Susitna-----	85	Gravel source		Probable: Bottom layer	0.77
453: Susivar-----	45	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Niklavar-----	45	Gravel source		Probable: Bottom layer	0.43
454: Susivar-----	70	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Moose River-----	20	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
455: Talkeetna-----	45	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Chugach-----	20	Gravel source		Improbable: Bottom layer not a source	0.00
Deneka-----	30	Improbable: Hard bedrock within 4 feet Bottom layer not a source	0.00 0.00	Improbable: Bottom layer not a source Hard bedrock within 4 feet	0.00 0.00

Table 17.--Construction Materials: Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		(Alaska criteria)		(Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
456: Talkeetna-----	45	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Chugach-----	20	Gravel source		Improbable: Bottom layer not a source	0.00
Deneka-----	30	Improbable: Hard bedrock within 4 feet	0.00	Improbable: Bottom layer not a source	0.00
		Bottom layer not a source	0.00	Hard bedrock within 4 feet	0.00
457: Talkeetna-----	45	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Chugach-----	20	Gravel source		Improbable: Bottom layer not a source	0.00
Deneka-----	30	Improbable: Hard bedrock within 4 feet	0.00	Improbable: Bottom layer not a source	0.00
		Bottom layer not a source	0.00	Hard bedrock within 4 feet	0.00
458: Talkeetna-----	45	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Chugach-----	20	Gravel source		Improbable: Bottom layer not a source	0.00
Deneka-----	30	Improbable: Hard bedrock within 4 feet	0.00	Improbable: Bottom layer not a source	0.00
		Bottom layer not a source	0.00	Hard bedrock within 4 feet	0.00
459: Talkeetna-----	45	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Chugach-----	40	Gravel source		Improbable: Bottom layer not a source	0.00
Histic Cryaquepts----	15	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
460: Talkeetna, cool-----	45	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Chugach, cool-----	40	Gravel source		Improbable: Bottom layer not a source	0.00
Histic Cryaquepts----	15	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00

Table 17.--Construction Materials: Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel  (Alaska criteria)		Potential source of sand  (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
461: Talkeetna-----	70	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
Deneka-----	15	Improbable: Hard bedrock within 4 feet	0.00	Improbable: Bottom layer not a source	0.00
		Bottom layer not a source	0.00	Hard bedrock within 4 feet	0.00
Rock outcrop-----	10	Not rated		Not rated	
462: Typic Cryaquepts, tidal flats-----	70	Improbable:  Bottom layer not a source	0.00	Improbable:  Bottom layer not a source	0.00
Typic Cryaquepts, beach terrace-----	25	Improbable:  Bottom layer not a source	0.00	Improbable:  Bottom layer not a source	0.00
463: Water-----	90	Not rated		Not rated	
464: Water, saline-----	90	Not rated		Not rated	
465: Whitsol-----	85	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
466: Whitsol-----	80	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
467: Whitsol-----	85	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
468: Whitsol-----	85	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00
469: Whitsol-----	85	Improbable: Bottom layer not a source	0.00	Improbable: Bottom layer not a source	0.00

Table 18.--Construction Materials: Topsoil and Roadfill

(This table gives soil suitability ratings and the primary limiting factors associated with the ratings. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the potential limitation. Information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
400: Anchorpark-----	85	Poor: Slope	0.00	Poor: Slope	0.00
401: Andic Humicryods-----	75	Poor: Slope Rock fragment content Hard to reclaim	0.00 0.00 0.00	Poor: Slope High frost action (check lower layers)	0.00 0.00
Rock outcrop-----	15	Not rated		Not rated	
402: Clam Gulch-----	80	Fair: Depth to saturated zone	0.04	Poor: High frost action (check lower layers) Low strength Depth to saturated zone	0.00 0.00 0.04
403: Clam Gulch-----	45	Fair: Depth to saturated zone	0.04	Poor: High frost action (check lower layers) Low strength Depth to saturated zone	0.00 0.00 0.04
Doroshin-----	35	Poor: Depth to saturated zone Content of organic matter Too acid	0.00 0.00 0.88	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
Jacobsen-----	15	Poor: Depth to saturated zone Rock fragment content Hard to reclaim	0.00 0.00 0.95	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
404: Cryosaprists, tidal flats-----	90	Poor: Depth to saturated zone Content of organic matter	0.00 0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
405: Cryorthents, silty---	90	Poor: Slope	0.00	Poor: High frost action (check lower layers) Slope	0.00 0.00

Table 18.--Construction Materials: Topsoil and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
406: Cryorthents, skeletal-	45	Poor: Rock fragment content	0.00	Fair: Moderate frost action (check lower layers)	0.50
		Hard to reclaim	0.00	Cobble content	0.50
Urban land-----	45	Not rated		Not rated	
407: Cryorthents, skeletal-	45	Poor: Rock fragment content	0.00	Fair: Moderate frost action (check lower layers)	0.50
		Hard to reclaim	0.00	Cobble content	0.50
		Slope	0.84		
Urban land-----	45	Not rated		Not rated	
408: Deception-----	55	Poor: Slope	0.00	Poor: Slope	0.00
		Rock fragment content	0.00	Moderate frost action (check lower layers)	0.50
		Hard to reclaim	0.00	Cobble content	0.81
Cryorthents, skeletal-	45	Poor: Slope	0.00	Poor: Slope	0.00
		Rock fragment content	0.00	Moderate frost action (check lower layers)	0.50
		Hard to reclaim	0.00	Cobble content	0.55
409: Deception-----	80	Poor: Rock fragment content	0.00	Fair: Moderate frost action (check lower layers)	0.50
		Hard to reclaim	0.00	Cobble content	0.81
		Slope	0.84		
Disappear-----	10	Fair: Depth to saturated zone	0.04	Poor: High frost action (check lower layers)	0.00
		Rock fragment content	0.88	Depth to saturated zone	0.04
410: Deception-----	40	Poor: Rock fragment content	0.00	Fair: Moderate frost action (check lower layers)	0.50
		Hard to reclaim	0.00	Cobble content	0.81
Estelle-----	35	Fair: Hard to reclaim	0.88	Poor: High frost action (check lower layers)	0.00
Kichatna-----	15	Poor: Rock fragment content	0.00	Fair: Cobble content	0.99
		Hard to reclaim	0.00		
411: Deception-----	40	Poor: Rock fragment content	0.00	Fair: Moderate frost action (check lower layers)	0.50
		Slope	0.00	Cobble content	0.81
		Hard to reclaim	0.00		

Table 18.--Construction Materials: Topsoil and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
411: Estelle-----	35	Poor: Slope Hard to reclaim	0.00 0.88	Poor: High frost action (check lower layers)	0.00
Kichatna-----	15	Poor: Rock fragment content Slope Hard to reclaim	0.00 0.00 0.00	Fair: Cobble content	0.99
412: Deception-----	40	Poor: Slope Rock fragment content Hard to reclaim	0.00 0.00 0.00	Poor: Slope Moderate frost action (check lower layers) Cobble content	0.00 0.50 0.81
Estelle-----	35	Poor: Slope Hard to reclaim	0.00 0.88	Poor: High frost action (check lower layers) Slope	0.00 0.00
Kichatna-----	15	Poor: Slope Rock fragment content Hard to reclaim	0.00 0.00 0.00	Poor: Slope Cobble content	0.00 0.99
413: Deception-----	40	Poor: Slope Rock fragment content Hard to reclaim	0.00 0.00 0.00	Poor: Slope Moderate frost action (check lower layers) Cobble content	0.00 0.50 0.81
Estelle-----	35	Poor: Slope Hard to reclaim	0.00 0.88	Poor: Slope High frost action (check lower layers)	0.00 0.00
Kichatna-----	15	Poor: Slope Rock fragment content Hard to reclaim	0.00 0.00 0.00	Poor: Slope Cobble content	0.00 0.99
414: Deception-----	40	Poor: Rock fragment content Hard to reclaim Slope	0.00 0.00 0.96	Fair: Moderate frost action (check lower layers) Cobble content	0.50 0.81
Estelle-----	35	Fair: Hard to reclaim Slope	0.88 0.96	Poor: High frost action (check lower layers)	0.00
Kichatna-----	15	Poor: Rock fragment content Hard to reclaim Slope	0.00 0.00 0.96	Fair: Cobble content	0.99

Table 18.--Construction Materials: Topsoil and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
415: Deception-----	40	Poor: Rock fragment content	0.00	Fair: Moderate frost action (check lower layers)	0.50
		Slope	0.00	Slope	0.50
		Hard to reclaim	0.00	Cobble content	0.81
Estelle-----	35	Poor: Slope	0.00	Poor: High frost action (check lower layers)	0.00
		Hard to reclaim	0.88	Slope	0.50
Kichatna-----	15	Poor: Rock fragment content	0.00	Fair: Slope	0.50
		Hard to reclaim	0.00	Cobble content	0.99
		Slope	0.00		
416: Disappear-----	60	Fair: Depth to saturated zone	0.04	Poor: High frost action (check lower layers)	0.00
		Rock fragment content	0.88	Depth to saturated zone	0.04
Pioneer Peak-----	30	Fair: Depth to saturated zone	0.53	Fair: Moderate frost action (check lower layers)	0.50
		Hard to reclaim	0.95	Depth to saturated zone	0.53
417: Doroshin-----	85	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone	0.00
		Content of organic matter	0.00	High frost action (check lower layers)	0.00
		Too acid	0.88		
418: Dumps, landfill-----	100	Not rated		Not rated	
419: Eklutna-----	100	Poor: Rock fragment content	0.00	Good source	
		Hard to reclaim	0.88		
420: Haplocryods-----	95	Poor: Slope	0.00	Poor: High frost action (check lower layers)	0.00
		Depth to bedrock	0.08	Depth to bedrock	0.00
		Rock fragment content	0.24	Slope	0.00
				Stone content	0.05
421: Histic Cryaquepts-----	90	Fair: Depth to saturated zone	0.04	Poor: High frost action (check lower layers)	0.00
		Rock fragment content	0.50	Depth to saturated zone	0.04
		Too acid	0.88		
		Slope	0.96		

Table 18.--Construction Materials: Topsoil and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
422: Histic Cryaquepts-----	55	Fair: Depth to saturated zone Rock fragment content Slope Too acid	0.04 0.50 0.84 0.88	Poor: High frost action (check lower layers) Depth to saturated zone	0.00 0.04
Hurdygurdy-----	35	Poor: Rock fragment content Slope Hard to reclaim	0.00 0.00 0.00	Poor: High frost action (check lower layers)	0.00
423: Hurdygurdy-----	70	Poor: Rock fragment content Slope Hard to reclaim	0.00 0.00 0.00	Poor: High frost action (check lower layers) Slope	0.00 0.00
Siwash-----	15	Poor: Rock fragment content Slope Depth to bedrock Too acid	0.00 0.00 0.00 0.98	Poor: Depth to bedrock High frost action (check lower layers) Slope	0.00 0.00 0.00
Rock outcrop-----	10	Not rated		Not rated	
424: Icknuun, ponded-----	85	Poor: Depth to saturated zone Content of organic matter Too acid	0.00 0.00 0.98	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
425: Jacobsen-----	35	Poor: Depth to saturated zone Rock fragment content Hard to reclaim	0.00 0.00 0.95	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
Disappear-----	30	Fair: Depth to saturated zone Rock fragment content	0.04 0.88	Poor: High frost action (check lower layers) Depth to saturated zone	0.00 0.04
Doroshin, ponded-----	20	Poor: Depth to saturated zone Content of organic matter Too acid	0.00 0.00 0.88	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
426: Jacobsen-----	35	Poor: Depth to saturated zone Rock fragment content Hard to reclaim	0.00 0.00 0.95	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00

Table 18.--Construction Materials: Topsoil and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
426: Disappear-----	30	Fair: Depth to saturated zone	0.04	Poor: High frost action (check lower layers)	0.00
		Rock fragment content	0.88	Depth to saturated zone	0.04
Doroshin-----	25	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone	0.00
		Content of organic matter	0.00	High frost action (check lower layers)	0.00
		Too acid	0.88		
427: Jacobsen-----	35	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone	0.00
		Rock fragment content	0.00	High frost action (check lower layers)	0.00
		Slope	0.84		
		Hard to reclaim	0.95		
Disappear-----	30	Fair: Depth to saturated zone	0.04	Poor: High frost action (check lower layers)	0.00
		Slope	0.84	Depth to saturated zone	0.04
		Rock fragment content	0.88		
Doroshin-----	25	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone	0.00
		Content of organic matter	0.00	High frost action (check lower layers)	0.00
		Too acid	0.88		
428: Kashwitna-----	45	Poor: Rock fragment content	0.00	Poor: High frost action (check lower layers)	0.00
		Hard to reclaim	0.00		
Kichatna-----	40	Poor: Rock fragment content	0.00	Fair: Cobble content	0.99
		Hard to reclaim	0.00		
429: Kashwitna-----	60	Poor: Rock fragment content	0.00	Poor: High frost action (check lower layers)	0.00
		Slope	0.00		
		Hard to reclaim	0.00		
Kichatna-----	25	Poor: Rock fragment content	0.00	Fair: Cobble content	0.99
		Slope	0.00		
		Hard to reclaim	0.00		
430: Kashwitna-----	50	Poor: Slope	0.00	Poor: Slope	0.00
		Rock fragment content	0.00	High frost action (check lower layers)	0.00
		Hard to reclaim	0.00		

Table 18.--Construction Materials: Topsoil and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
430: Kichatna-----	40	Poor: Slope Rock fragment content Hard to reclaim	0.00 0.00 0.00	Poor: Slope Cobble content	0.00 0.99
431: Kashwitna-----	45	Poor: Rock fragment content Hard to reclaim	0.00 0.00	Poor: High frost action (check lower layers)	0.00
Kichatna-----	40	Poor: Rock fragment content Hard to reclaim	0.00 0.00	Fair: Cobble content	0.99
432: Kashwitna-----	70	Poor: Rock fragment content Hard to reclaim Slope	0.00 0.00 0.96	Poor: High frost action (check lower layers)	0.00
Kichatna-----	25	Poor: Rock fragment content Hard to reclaim Slope	0.00 0.00 0.96	Fair: Cobble content	0.99
433: Kashwitna-----	60	Poor: Rock fragment content Hard to reclaim Slope	0.00 0.00 0.00	Poor: High frost action (check lower layers) Slope	0.00 0.50
Kichatna-----	30	Poor: Rock fragment content Hard to reclaim Slope	0.00 0.00 0.00	Fair: Slope Cobble content	0.50 0.99
434: Kichatna-----	45	Poor: Rock fragment content Hard to reclaim Slope	0.00 0.00 0.96	Fair: Cobble content	0.99
Pioneer Peak-----	30	Fair: Depth to saturated zone Hard to reclaim	0.53 0.95	Fair: Moderate frost action (check lower layers) Depth to saturated zone	0.50 0.53
Jacobsen-----	15	Poor: Depth to saturated zone Rock fragment content Hard to reclaim	0.00 0.00 0.95	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00

Table 18.--Construction Materials: Topsoil and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
435: Matsu-----	90	Fair: Depth to saturated zone	0.53	Poor: High frost action (check lower layers) Depth to saturated zone	0.00 0.53
436: Matsu-----	90	Fair: Depth to saturated zone	0.53	Poor: High frost action (check lower layers) Depth to saturated zone	0.00 0.53
437: Moose River-----	70	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
Niklason-----	20	Fair: Hard to reclaim  Depth to saturated zone	0.50 0.53	Fair: Moderate frost action (check lower layers) Depth to saturated zone	0.50 0.53
438: Moose River-----	70	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
Niklason-----	20	Fair: Hard to reclaim  Depth to saturated zone	0.50 0.53	Fair: Moderate frost action (check lower layers) Depth to saturated zone	0.50 0.53
439: Nakochna-----	55	Poor: Slope Depth to bedrock  Content of organic matter	0.00 0.00 0.56	Poor: Depth to bedrock High frost action (check lower layers) Slope Low strength	0.00 0.00 0.00 0.78
Rock outcrop-----	30	Not rated		Not rated	
440: Pioneer Peak-----	80	Fair: Depth to saturated zone  Hard to reclaim	0.53 0.95	Fair: Moderate frost action (check lower layers) Depth to saturated zone	0.50 0.53

Table 18.--Construction Materials: Topsoil and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
441: Pioneer Peak-----	80	Fair: Depth to saturated zone	0.53	Fair: Moderate frost action (check lower layers)	0.50
		Hard to reclaim	0.95	Depth to saturated zone	0.53
442: Pioneer Peak-----	45	Poor: Slope	0.00	Fair: Moderate frost action (check lower layers)	0.50
		Depth to saturated zone	0.53	Depth to saturated zone	0.53
		Hard to reclaim	0.95		
Jacobsen-----	30	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone	0.00
		Rock fragment content	0.00	High frost action (check lower layers)	0.00
		Slope	0.00		
		Hard to reclaim	0.95		
Doroshin-----	15	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone	0.00
		Content of organic matter	0.00	High frost action (check lower layers)	0.00
		Slope	0.00		
		Too acid	0.88		
443: Pits, gravel-----	100	Not rated		Not rated	
444: Riverwash-----	45	Not rated		Not rated	
Niklavar, frequently flooded-----	45	Fair: Depth to saturated zone	0.04	Poor: High frost action (check lower layers)	0.00
		Hard to reclaim	0.12	Depth to saturated zone	0.04
445: Rock outcrop-----	100	Not rated		Not rated	
446: Salamatof-----	85	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone	0.00
		Content of organic matter	0.00	High frost action (check lower layers)	0.00
		Too acid	0.12		
447: Smithfha-----	85	Good source		Fair: Moderate frost action (check lower layers)	0.50
448: Smithfha-----	85	Good source		Fair: Moderate frost action (check lower layers)	0.50

Table 18.--Construction Materials: Topsoil and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
449: Smithfha-----	90	Poor: Slope	0.00	Poor: Slope Moderate frost action (check lower layers)	0.00 0.50
450: Smithfha-----	85	Poor: Slope	0.00	Fair: Moderate frost action (check lower layers) Slope	0.50 0.50
451: Smithfha-----	60	Fair: Slope	0.96	Fair: Moderate frost action (check lower layers)	0.50
Anchorpark-----	35	Fair: Slope	0.96	Good source	
452: Susitna-----	85	Fair: Hard to reclaim	0.95	Fair: Moderate frost action (check lower layers)	0.50
453: Susivar-----	45	Fair: Depth to saturated zone	0.53	Poor: High frost action (check lower layers) Depth to saturated zone	0.00 0.53
Niklavar-----	45	Fair: Depth to saturated zone Hard to reclaim	0.04 0.12	Poor: High frost action (check lower layers) Depth to saturated zone	0.00 0.04
454: Susivar-----	70	Fair: Depth to saturated zone	0.53	Poor: High frost action (check lower layers) Depth to saturated zone	0.00 0.53
Moose River-----	20	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
455: Talkeetna-----	45	Poor: Rock fragment content Slope Hard to reclaim	0.00 0.00 0.00	Poor: High frost action (check lower layers)	0.00

Table 18.--Construction Materials: Topsoil and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
455: Chugach-----	20	Poor: Rock fragment content Slope Hard to reclaim	0.00 0.00 0.00	Fair: Cobble content	0.93
Deneka-----	30	Poor: Slope Depth to bedrock Content of organic matter	0.00 0.02 0.56	Poor: Depth to bedrock High frost action (check lower layers)	0.00 0.00
456: Talkeetna-----	45	Poor: Slope Rock fragment content Hard to reclaim	0.00 0.00 0.00	Poor: High frost action (check lower layers) Slope	0.00 0.00
Chugach-----	20	Poor: Slope Rock fragment content Hard to reclaim	0.00 0.00 0.00	Poor: Slope Cobble content	0.00 0.93
Deneka-----	30	Poor: Slope Depth to bedrock Content of organic matter	0.00 0.02 0.56	Poor: Depth to bedrock High frost action (check lower layers) Slope	0.00 0.00 0.00
457: Talkeetna-----	45	Poor: Slope Rock fragment content Hard to reclaim	0.00 0.00 0.00	Poor: Slope High frost action (check lower layers)	0.00 0.00
Chugach-----	20	Poor: Slope Rock fragment content Hard to reclaim	0.00 0.00 0.00	Poor: Slope Cobble content	0.00 0.93
Deneka-----	30	Poor: Slope Depth to bedrock Content of organic matter	0.00 0.02 0.56	Poor: Depth to bedrock Slope High frost action (check lower layers)	0.00 0.00 0.00
458: Talkeetna-----	45	Poor: Rock fragment content Hard to reclaim Slope	0.00 0.00 0.84	Poor: High frost action (check lower layers)	0.00
Chugach-----	20	Poor: Rock fragment content Hard to reclaim Slope	0.00 0.00 0.84	Fair: Cobble content	0.93

Table 18.--Construction Materials: Topsoil and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
458: Deneka-----	30	Fair: Depth to bedrock Content of organic matter Slope	0.02 0.56 0.84	Poor: Depth to bedrock High frost action (check lower layers)	0.00 0.00
459: Talkeetna-----	45	Poor: Rock fragment content Slope Hard to reclaim	0.00 0.00 0.00	Poor: High frost action (check lower layers) Slope	0.00 0.00
Chugach-----	40	Poor: Rock fragment content Hard to reclaim Slope	0.00 0.00 0.00	Poor: Slope Cobble content	0.00 0.93
Histic Cryaquepts----	15	Poor: Slope Depth to saturated zone Rock fragment content Too acid	0.00 0.04 0.50 0.88	Poor: High frost action (check lower layers) Depth to saturated zone	0.00 0.04
460: Talkeetna, cool-----	45	Poor: Rock fragment content Slope Hard to reclaim	0.00 0.00 0.00	Poor: High frost action (check lower layers) Slope	0.00 0.00
Chugach, cool-----	40	Poor: Rock fragment content Hard to reclaim Slope	0.00 0.00 0.00	Poor: Slope Cobble content	0.00 0.93
Histic Cryaquepts----	15	Poor: Slope Depth to saturated zone Rock fragment content Too acid	0.00 0.04 0.50 0.88	Poor: High frost action (check lower layers) Depth to saturated zone	0.00 0.04
461: Talkeetna-----	70	Poor: Slope Rock fragment content Hard to reclaim	0.00 0.00 0.00	Poor: Slope High frost action (check lower layers)	0.00 0.00
Deneka-----	15	Poor: Slope Depth to bedrock Content of organic matter	0.00 0.02 0.56	Poor: Depth to bedrock Slope High frost action (check lower layers)	0.00 0.00 0.00
Rock outcrop-----	10	Not rated		Not rated	

Table 18.--Construction Materials: Topsoil and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of topsoil (Alaska criteria)		Potential source of roadfill (Alaska criteria)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
462: Typic Cryaquepts, tidal flats-----	70	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
Typic Cryaquepts, beach terrace-----	25	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone High frost action (check lower layers)	0.00 0.00
463: Water-----	90	Not rated		Not rated	
464: Water, saline-----	90	Not rated		Not rated	
465: Whitsol-----	85	Fair: Hard to reclaim	0.88	Poor: High frost action (check lower layers)	0.00
466: Whitsol-----	80	Fair: Hard to reclaim	0.88	Poor: High frost action (check lower layers)	0.00
467: Whitsol-----	85	Fair: Hard to reclaim Slope	0.88 0.96	Poor: High frost action (check lower layers)	0.00
468: Whitsol-----	85	Poor: Slope  Hard to reclaim	0.00  0.88	Poor: High frost action (check lower layers) Slope	0.00  0.98
469: Whitsol-----	85	Poor: Slope  Hard to reclaim	0.00  0.88	Poor: High frost action (check lower layers) Slope	0.00  0.00

Table 19.--Hydric Soils List

Map symbol and map unit name	Soil name (Pct. of map unit)	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
400: Anchorpark loamy very fine sand, 30 to 85 percent slopes	Anchorpark (85%)	No	dunes	---	---	---	---
	Smithfha (10%)	No	escarpments	---	---	---	---
	Kashwitna (5%)	No	escarpments on hills	---	---	---	---
401: Andic Humicryods-Rock outcrop association, 25 to 85 percent slopes	Andic Humicryods (75%)	No	mountains	---	---	---	---
	Rock outcrop (15%)	Unranked	mountains	---	---	---	---
	Histic Cryaquepts (5%)	Yes	depressions on mountains	2B3	YES	NO	NO
	Rubble land (5%)	No	mountains	---	---	---	---
402: Clam Gulch silt loam, 0 to 7 percent slopes	Clam Gulch (80%)	Yes	depressions on till plains	2B3	YES	NO	NO
	Doroshin, ponded (10%)	Yes	depressions on outwash plains	1,2B3,3	YES	NO	YES
	Jacobsen (10%)	Yes	depressions on till plains	2B3	YES	NO	NO
403: Clam Gulch-Doroshin-Jacobsen complex, 0 to 15 percent slopes	Clam Gulch (45%)	Yes	depressions on till plains	2B3	YES	NO	NO
	Doroshin (35%)	Yes	depressions on outwash plains	1,2B3	YES	NO	NO
	Jacobsen (15%)	Yes	depressions on till plains	2B3	YES	NO	NO
	Pioneer Peak (5%)	No	depressions on till plains	---	---	---	---
404: Cryosaprists, 0 to 1 percent slopes	Cryosaprists, tidal flats (90%)	Yes	salt marshes	1,2B3	YES	NO	NO
	Typic Cryaquepts, tidal flats (5%)	Yes	tidal flats	2B3	YES	NO	NO
	Water, saline (5%)	Unranked	rivers, lakes	---	---	---	---
405: Cryorthents, silty, 5 to 65 percent slopes	Cryorthents, silty (90%)	No	marine terraces	---	---	---	---
	Histic Cryaquepts, silty (10%)	Yes	marine terraces	2B3	YES	NO	NO
406: Cryorthents and Urban land, 0 to 5 percent slopes	Cryorthents, skeletal (45%)	No	outwash plains, till plains	---	---	---	---
	Urban land (45%)	Unranked	urban land	---	---	---	---
	Icknuun, ponded (5%)	Yes	depressions on till plains	1,2B3,3	YES	NO	YES
	Water (5%)	Unranked	rivers, lakes	---	---	---	---

Table 19.--Hydric Soils List--Continued

Map symbol and map unit name	Soil name (Pct. of map unit)	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
407: Cryorthents and Urban land, 5 to 20 percent slopes	Cryorthents, skeletal (45%)	No	till plains, outwash plains	---	---	---	---
	Urban land (45%)	Unranked	urban land	---	---	---	---
	Icknuun, ponded (5%)	Yes	depressions on till plains	1,2B3,3	YES	NO	YES
	Water (5%)	Unranked	lakes, rivers	---	---	---	---
408: Deception-Cryorthents complex, 45 to 90 percent slopes	Deception (55%)	No	hills	---	---	---	---
	Cryorthents, skeletal (45%)	No	escarpments	---	---	---	---
409: Deception-Disappear complex, undulating and hilly	Deception (80%)	No	till plains	---	---	---	---
	Disappear (10%)	Yes	depressions on outwash plains	2B3	YES	NO	NO
	Doroshin, ponded (5%)	Yes	depressions on outwash plains	1,2B3,3	YES	NO	YES
	Kichatna (5%)	No	outwash plains	---	---	---	---
410: Deception-Estelle-Kichatna complex, 0 to 7 percent slopes	Deception (40%)	No	till plains	---	---	---	---
	Estelle (35%)	No	till plains	---	---	---	---
	Kichatna (15%)	No	outwash plains	---	---	---	---
	Pioneer Peak (7%)	No	depressions on till plains	---	---	---	---
	Jacobsen (3%)	Yes	depressions on till plains	2B3	YES	NO	NO
411: Deception-Estelle-Kichatna complex, 12 to 20 percent slopes	Deception (40%)	No	hills	---	---	---	---
	Estelle (35%)	No	hills	---	---	---	---
	Kichatna (15%)	No	hills	---	---	---	---
	Doroshin (6%)	Yes	depressions on hills	1,2B3	YES	NO	NO
	Pioneer Peak (4%)	No	depressions on hills	---	---	---	---
412: Deception-Estelle-Kichatna complex, 20 to 45 percent slopes	Deception (40%)	No	hills	---	---	---	---
	Estelle (35%)	No	hills	---	---	---	---
	Kichatna (15%)	No	hills	---	---	---	---
	Kashwitna (10%)	No	hills	---	---	---	---

Table 19.--Hydric Soils List--Continued

Map symbol and map unit name	Soil name (Pct. of map unit)	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
413: Deception-Estelle-Kichatna complex, 45 to 85 percent slopes	Deception (40%)	No	hills	---	---	---	---
	Estelle (35%)	No	hills	---	---	---	---
	Kichatna (15%)	No	hills	---	---	---	---
	Kashwitna (10%)	No	hills	---	---	---	---
414: Deception-Estelle-Kichatna complex, undulating and hilly	Deception (40%)	No	till plains	---	---	---	---
	Estelle (35%)	No	till plains	---	---	---	---
	Kichatna (15%)	No	outwash plains	---	---	---	---
	Doroshin, ponded (6%)	Yes	depressions on outwash plains	1,2B3,3	YES	NO	YES
	Pioneer Peak (3%)	No	depressions on till plains	---	---	---	---
	Jacobsen (1%)	Yes	depressions on till plains	2B3	YES	NO	NO
415: Deception-Estelle-Kichatna complex, undulating and steep	Deception (40%)	No	hills	---	---	---	---
	Estelle (35%)	No	hills	---	---	---	---
	Kichatna (15%)	No	hills	---	---	---	---
	Doroshin, ponded (6%)	Yes	depressions on hills	1,2B3,3	YES	NO	YES
	Pioneer Peak (4%)	No	depressions on hills	---	---	---	---
416: Disappear-Pioneer Peak complex, 0 to 7 percent slopes	Disappear (60%)	Yes	depressions on outwash plains	2B3	YES	NO	NO
	Pioneer Peak (30%)	No	depressions on till plains	---	---	---	---
	Jacobsen (10%)	Yes	depressions on till plains	2B3	YES	NO	NO
417: Doroshin peat, 0 to 7 percent slopes	Doroshin (85%)	Yes	depressions on outwash plains	1,2B3	YES	NO	NO
	Water (10%)	Unranked	lakes, rivers	---	---	---	---
	Icknuun (5%)	Yes	depressions on till plains	1,2B3	YES	NO	NO
418: Dumps, landfill	Dumps, landfill (100%)	No	outwash plains, till plains	---	---	---	---
419: Eklutna very cobbly sand, 0 to 3 percent slopes	Eklutna (100%)	No	terraces, alluvial fans	---	---	---	---
	Cryorthents, skeletal (0%)	No	till plains, outwash plains	---	---	---	---

Table 19.--Hydric Soils List--Continued

Map symbol and map unit name	Soil name (Pct. of map unit)	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
420: Haplocryods, 20 to 50 percent slopes	Haplocryods (95%)	No	hills	---	---	---	---
	Rock outcrop (5%)	Unranked	ridges, hills	---	---	---	---
421: Histic Cryaquepts, 0 to 15 percent slopes	Histic Cryaquepts (90%)	Yes	depressions on stream terraces	2B3	YES	NO	NO
	Chugach (5%)	No	structural benches on mountains	---	---	---	---
	Talkeetna (5%)	No	structural benches on mountains	---	---	---	---
422: Histic Cryaquepts-Hurdygurdy association, 3 to 25 percent slopes	Histic Cryaquepts (55%)	Yes	depressions on mountains	2B3	YES	NO	NO
	Hurdygurdy (35%)	No	mountains	---	---	---	---
	Chugach (10%)	No	mountains	---	---	---	---
423: Hurdygurdy-Siwash-Rock outcrop association, 10 to 70 percent slopes	Hurdygurdy (70%)	No	mountains	---	---	---	---
	Siwash (15%)	No	mountains	---	---	---	---
	Rock outcrop (10%)	Unranked	mountains	---	---	---	---
	Histic Cryaquepts (5%)	Yes	depressions on mountains	2B3	YES	NO	NO
424: Icknuun peat, 0 to 3 percent slopes	Icknuun, ponded (85%)	Yes	depressions on till plains	2B3,1,3	YES	NO	YES
	Water (10%)	Unranked	lakes, rivers	---	---	---	---
	Doroshin, ponded (5%)	Yes	depressions on outwash plains	2B3,3,1	YES	NO	YES
425: Jacobsen-Disappear-Doroshin complex, 0 to 3 percent slopes	Jacobsen (35%)	Yes	depressions on drainageways	2B3	YES	NO	NO
	Disappear (30%)	Yes	depressions on drainageways	2B3	YES	NO	NO
	Doroshin, ponded (20%)	Yes	depressions on drainageways	1,2B3,3	YES	NO	YES
	Clam Gulch (10%)	Yes	depressions on till plains	2B3	YES	NO	NO
	Pioneer Peak (5%)	No	depressions on drainageways	---	---	---	---
426: Jacobsen-Disappear-Doroshin complex, 3 to 7 percent slopes	Jacobsen (35%)	Yes	depressions on drainageways	2B3	YES	NO	NO
	Disappear (30%)	Yes	depressions on drainageways	2B3	YES	NO	NO
	Doroshin (25%)	Yes	depressions on drainageways	1,2B3	YES	NO	NO
	Pioneer Peak (10%)	No	depressions on drainageways	---	---	---	---

Table 19.--Hydric Soils List--Continued

Map symbol and map unit name	Soil name (Pct. of map unit)	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
427: Jacobsen-Disappear-Doroshin complex, 7 to 12 percent slopes	Jacobsen (35%)	Yes	depressions on drainageways	2B3	YES	NO	NO
	Disappear (30%)	Yes	depressions on drainageways	2B3	YES	NO	NO
	Doroshin (25%)	Yes	depressions on drainageways	2B3,1	YES	NO	NO
	Pioneer Peak (10%)	No	depressions on drainageways	---	---	---	---
428: Kashwitna-Kichatna complex, 0 to 3 percent slopes	Kashwitna (45%)	No	outwash plains	---	---	---	---
	Kichatna (40%)	No	outwash plains	---	---	---	---
	Deception (10%)	No	till plains	---	---	---	---
	Pioneer Peak (3%)	No	depressions on till plains	---	---	---	---
	Doroshin, ponded (2%)	Yes	depressions on outwash plains	1,2B3,3	YES	NO	YES
429: Kashwitna-Kichatna complex, 12 to 20 percent slopes	Kashwitna (60%)	No	hills	---	---	---	---
	Kichatna (25%)	No	hills	---	---	---	---
	Estelle (8%)	No	hills	---	---	---	---
	Deception (5%)	No	hills	---	---	---	---
	Jacobsen (2%)	Yes	depressions on hills	2B3	YES	NO	NO
430: Kashwitna-Kichatna complex, 30 to 85 percent slopes	Kashwitna (50%)	No	hills	---	---	---	---
	Kichatna (40%)	No	hills	---	---	---	---
	Jacobsen (5%)	Yes	depressions on hills	2B3	YES	NO	NO
	Pioneer Peak (5%)	No	depressions on hills	---	---	---	---
431: Kashwitna-Kichatna complex, undulating	Kashwitna (45%)	No	outwash plains	---	---	---	---
	Kichatna (40%)	No	outwash plains	---	---	---	---
	Deception (5%)	No	till plains	---	---	---	---
	Doroshin, ponded (5%)	Yes	depressions on outwash plains	1,2B3,3	YES	NO	YES
	Jacobsen (5%)	Yes	depressions on outwash plains	2B3	YES	NO	NO

Table 19.--Hydric Soils List--Continued

Map symbol and map unit name	Soil name (Pct. of map unit)	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
432: Kashwitna-Kichatna complex, undulating and hilly	Kashwitna (70%)	No	outwash plains	---	---	---	---
	Kichatna (25%)	No	outwash plains	---	---	---	---
	Jacobsen (3%)	Yes	depressions on till plains	2B3	YES	NO	NO
	Doroshin, ponded (2%)	Yes	depressions on outwash plains	2B3,3,1	YES	NO	YES
433: Kashwitna-Kichatna complex, undulating and steep	Kashwitna (60%)	No	hills	---	---	---	---
	Kichatna (30%)	No	hills	---	---	---	---
	Doroshin, ponded (5%)	Yes	depressions on hills	1,2B3,3	YES	NO	YES
	Jacobsen (3%)	Yes	depressions on hills	2B3	YES	NO	NO
	Pioneer Peak (2%)	No	depressions on hills	---	---	---	---
434: Kichatna-Pioneer Peak-Jacobsen complex, 0 to 15 percent slopes	Kichatna (45%)	No	outwash plains	---	---	---	---
	Pioneer Peak (30%)	No	depressions on till plains	---	---	---	---
	Jacobsen (15%)	Yes	depressions on till plains	2B3	YES	NO	NO
	Doroshin (10%)	Yes	depressions on outwash plains	1,2B3	YES	NO	NO
435: Matsu silt loam, 0 to 3 percent slopes	Matsu (90%)	No	depressions on stream terraces	---	---	---	---
	Clam Gulch (6%)	Yes	depressions on stream terraces	2B3	YES	NO	NO
	Doroshin, ponded (4%)	Yes	depressions on stream terraces	1,2B3,3	YES	NO	YES
436: Matsu silt loam, 3 to 7 percent slopes	Matsu (90%)	No	depressions on stream terraces	---	---	---	---
	Clam Gulch (6%)	Yes	depressions on stream terraces	2B3	YES	NO	NO
	Doroshin, ponded (4%)	Yes	depressions on stream terraces	1,2B3,3	YES	NO	YES
437: Moose River-Niklason complex, frequently flooded, 0 to 3 percent slopes	Moose River (70%)	Yes	depressions on flood plains	2B3	YES	NO	NO
	Niklason (20%)	No	flood plains	---	---	---	---
	Disappear (10%)	Yes	depressions on flood plains	2B3	YES	NO	NO

Table 19.--Hydric Soils List--Continued

Map symbol and map unit name	Soil name (Pct. of map unit)	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
438: Moose River-Niklason complex, occasionally flooded, 0 to 3 percent slopes	Moose River (70%)	Yes	depressions on flood plains	2B3	YES	NO	NO
	Niklason (20%)	No	flood plains	---	---	---	---
	Disappear (5%)	Yes	depressions on flood plains	2B3	YES	NO	NO
	Doroshin, flooded (4%)	Yes	depressions on flood plains	1,2B3	YES	NO	NO
	Water (1%)	Unranked	lakes, rivers	---	---	---	---
439: Nakochna-Rock outcrop association, 20 to 85 percent slopes	Nakochna (55%)	No	mountains	---	---	---	---
	Rock outcrop (30%)	Unranked	mountains	---	---	---	---
	Rubble land (10%)	Unranked	mountains	---	---	---	---
	Histic Cryaquepts (5%)	Yes	depressions on mountains	2B3	YES	NO	NO
440: Pioneer Peak silt loam, 0 to 3 percent slopes	Pioneer Peak (80%)	No	depressions on till plains	---	---	---	---
	Kichatna (10%)	No	till plains	---	---	---	---
	Disappear (5%)	Yes	depressions on outwash plains	2B3	YES	NO	NO
	Doroshin, ponded (5%)	Yes	depressions on outwash plains	1,2B3,3	YES	NO	YES
441: Pioneer Peak silt loam, 3 to 7 percent slopes	Pioneer Peak (80%)	No	depressions on till plains	---	---	---	---
	Disappear (10%)	Yes	depressions on outwash plains	2B3	YES	NO	NO
	Kichatna (10%)	No	till plains	---	---	---	---
442: Pioneer Peak-Jacobsen-Doroshin complex, 12 to 20 percent slopes	Pioneer Peak (45%)	No	depressions on hills	---	---	---	---
	Jacobsen (30%)	Yes	depressions on hills	2B3	YES	NO	NO
	Doroshin (15%)	Yes	swales on hills	1,2B3	YES	NO	NO
	Kichatna (10%)	No	hills	---	---	---	---
443: Pits, gravel	Pits, gravel (100%)	No	gravel pits	---	---	---	---
444: Riverwash and Niklavar soils, 0 to 2 percent slopes	Riverwash (45%)	Unranked	flood plains	---	---	---	---
	Niklavar, frequently flooded (45%)	Yes	flood plains	4,2B3	YES	YES	NO
	Water (10%)	Unranked	lakes, rivers	---	---	---	---
445: Rock outcrop	Rock outcrop (100%)	Unranked	cliffs	---	---	---	---

Table 19.--Hydric Soils List--Continued

Map symbol and map unit name	Soil name (Pct. of map unit)	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
446: Salamatof peat, 0 to 3 percent slopes	Salamatof (85%)	Yes	depressions on outwash plains	1,2B3,3	YES	NO	YES
	Water (10%)	Unranked	lakes, rivers	---	---	---	---
	Doroshin, ponded (5%)	Yes	depressions on outwash plains	2B3,3,1	YES	NO	YES
447: Smithfha loamy very fine sand, 0 to 3 percent slopes	Smithfha (85%)	No	plains	---	---	---	---
	Anchorpark (8%)	No	dunes	---	---	---	---
	Kashwitna (5%)	No	outwash plains	---	---	---	---
	Disappear (2%)	Yes	depressions on outwash plains	2B3	YES	NO	NO
448: Smithfha loamy very fine sand, 3 to 7 percent slopes	Smithfha (85%)	No	plains	---	---	---	---
	Anchorpark (8%)	No	dunes	---	---	---	---
	Kashwitna (5%)	No	outwash plains	---	---	---	---
	Disappear (2%)	Yes	depressions on outwash plains	2B3	YES	NO	NO
449: Smithfha loamy very fine sand, 30 to 45 percent slopes	Smithfha (90%)	No	hills	---	---	---	---
	Anchorpark (5%)	No	dunes	---	---	---	---
	Kashwitna (5%)	No	hills	---	---	---	---
450: Smithfha loamy very fine sand, undulating and steep	Smithfha (85%)	No	hills	---	---	---	---
	Anchorpark (10%)	No	dunes	---	---	---	---
	Kashwitna (3%)	No	hills	---	---	---	---
	Disappear (2%)	Yes	depressions on outwash plains	2B3	YES	NO	NO
451: Smithfha-Anchorpark complex, undulating and hilly	Smithfha (60%)	No	plains	---	---	---	---
	Anchorpark (35%)	No	dunes	---	---	---	---
	Kashwitna (3%)	No	outwash plains	---	---	---	---
	Disappear (2%)	Yes	depressions on outwash plains	2B3	YES	NO	NO
452: Susitna silt loam, 0 to 2 percent slopes	Susitna (85%)	No	stream terraces	---	---	---	---
	Moose River, rare (5%)	Yes	depressions on flood plains	2B3	YES	NO	NO
	Niklason, rare (5%)	No	flood plains	---	---	---	---
	Riverwash (5%)	Yes	flood plains	4	NO	YES	NO

Table 19.--Hydric Soils List--Continued

Map symbol and map unit name	Soil name (Pct. of map unit)	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
453: Susivar and Niklavar fine sandy loams	Susivar (45%)	No	flood plains	---	---	---	---
	Niklavar (45%)	Yes	flood plains	2B3	YES	NO	NO
	Riverwash (4%)	Unranked	flood plains	---	---	---	---
	Moose River (3%)	Yes	depressions on flood plains	2B3	YES	NO	NO
	Niklason (3%)	No	flood plains	---	---	---	---
454: Susivar-Moose River complex, 0 to 2 percent slopes	Susivar (70%)	No	flood plains	---	---	---	---
	Moose River (20%)	Yes	depressions on flood plains	2B3	YES	NO	NO
	Riverwash (5%)	Unranked	flood plains	---	---	---	---
	Susitna (5%)	No	stream terraces	---	---	---	---
455: Talkeetna-Chugach-Deneka complex, 12 to 20 percent slopes	Talkeetna (45%)	No	mountains	---	---	---	---
	Deneka (30%)	No	mountains	---	---	---	---
	Chugach (20%)	No	mountains	---	---	---	---
	Histic Cryaquepts (3%)	Yes	depressions on mountains	2B3	YES	NO	NO
	Rock outcrop (2%)	Unranked	mountains	---	---	---	---
456: Talkeetna-Chugach-Deneka complex, 20 to 45 percent slopes	Talkeetna (45%)	No	mountains	---	---	---	---
	Deneka (30%)	No	mountains	---	---	---	---
	Chugach (20%)	No	mountains	---	---	---	---
	Histic Cryaquepts (3%)	Yes	depressions on mountains	2B3	YES	NO	NO
	Rock outcrop (2%)	Unranked	mountains	---	---	---	---
457: Talkeetna-Chugach-Deneka complex, 45 to 85 percent slopes	Talkeetna (45%)	No	mountains	---	---	---	---
	Deneka (30%)	No	mountains	---	---	---	---
	Chugach (20%)	No	mountains	---	---	---	---
	Histic Cryaquepts (3%)	Yes	depressions on mountains	2B3	YES	NO	NO
	Rock outcrop (2%)	Unranked	mountains	---	---	---	---

Table 19.--Hydric Soils List--Continued

Map symbol and map unit name	Soil name (Pct. of map unit)	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
458: Talkeetna-Chugach-Deneka complex, undulating and hilly	Talkeetna (45%)	No	structural benches on mountains	---	---	---	---
	Deneka (30%)	No	structural benches on mountains	---	---	---	---
	Chugach (20%)	No	structural benches on mountains	---	---	---	---
	Histic Cryaquepts, warm (3%)	Yes	depressions on structural benches on mountains	2B3	YES	NO	NO
	Rock outcrop (2%)	Unranked	structural benches on mountains	---	---	---	---
459: Talkeetna-Chugach-Histic Cryaquepts association, 10 to 70 percent slopes	Talkeetna (45%)	Unranked	mountains	---	---	---	---
	Chugach (40%)	No	mountains	---	---	---	---
	Histic Cryaquepts (15%)	Yes	depressions on mountains	2B3	YES	NO	NO
460: Talkeetna-Chugach-Histic Cryaquepts association, cool, 10 to 70 percent slopes	Talkeetna, cool (45%)	No	mountains	---	---	---	---
	Chugach, cool (40%)	No	mountains	---	---	---	---
	Histic Cryaquepts (15%)	Yes	depressions on mountains	2B3	YES	NO	NO
461: Talkeetna-Deneka-Rock outcrop complex, 30 to 85 percent slopes	Talkeetna (70%)	No	mountains	---	---	---	---
	Deneka (15%)	No	mountains	---	---	---	---
	Rock outcrop (10%)	Unranked	mountains	---	---	---	---
	Histic Cryaquepts (5%)	Yes	depressions on mountains	2B3	YES	NO	NO
462: Typic Cryaquent and Typic Cryaquept soils, 0 to 2 percent slopes	Typic Cryaquents, tidal flats (70%)	Yes	tidal flats	2B3	YES	NO	NO
	Typic Cryaquepts, beach terrace (25%)	Yes	beach terraces	2B3	YES	NO	NO
	Water, saline (5%)	Unranked	lakes, rivers	---	---	---	---
463: Water, fresh	Water (90%)	Unranked	lakes, rivers	---	---	---	---
	Riverwash (10%)	Unranked	flood plains	---	---	---	---

Table 19.--Hydric Soils List--Continued

Map symbol and map unit name	Soil name (Pct. of map unit)	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
464: Water, saline	Water, saline (90%)	Unranked	NO DATA	---	---	---	---
	Typic Cryaquents, tidal flats (8%)	Yes	tidal flats	2B3	YES	NO	NO
	Cryosaprists, tidal flats (2%)	Yes	salt marshes	1,2B3	YES	NO	NO
465: Whitsol silt loam, 0 to 3 percent slopes	Whitsol (85%)	No	till plains	---	---	---	---
	Smithfha (7%)	No	plains	---	---	---	---
	Kashwitna (5%)	No	outwash plains	---	---	---	---
	Disappear (3%)	Yes	depressions on outwash plains	2B3	YES	NO	NO
466: Whitsol silt loam, 3 to 7 percent slopes	Whitsol (80%)	No	till plains	---	---	---	---
	Smithfha (10%)	No	plains	---	---	---	---
	Disappear (5%)	Yes	depressions on outwash plains	2B3	YES	NO	NO
	Kashwitna (5%)	No	outwash plains	---	---	---	---
467: Whitsol silt loam, 7 to 12 percent slopes	Whitsol (85%)	No	till plains	---	---	---	---
	Smithfha (7%)	No	plains	---	---	---	---
	Kashwitna (5%)	No	outwash plains	---	---	---	---
	Disappear (3%)	Yes	depressions on outwash plains	2B3	YES	NO	NO
468: Whitsol silt loam, 12 to 20 percent slopes	Whitsol (85%)	No	hills	---	---	---	---
	Smithfha (10%)	No	hills	---	---	---	---
	Kashwitna (5%)	No	hills	---	---	---	---
469: Whitsol silt loam, 20 to 45 percent slopes	Whitsol (85%)	No	hills	---	---	---	---
	Smithfha (10%)	No	hills	---	---	---	---
	Kashwitna (5%)	Unranked	hills	---	---	---	---

Table 20.--Classification of the Soils

Soil name	Family or higher taxonomic class
Anchorpark-----	Sandy, mixed Typic Dystricryepts
Andic Humicryods-----	Andic Humicryods
Chugach-----	Sandy-skeletal, mixed Andic Humicryods
Clam Gulch-----	Fine-silty, mixed, superactive, nonacid Humic Cryaquepts
Cryorthents-----	Cryorthents
Cryosaprists-----	Cryosaprists
Deception-----	Loamy-skeletal, mixed, superactive Typic Haplocryods
Deneka-----	Medial over loamy-skeletal, amorphic over mixed, superactive Lithic Humicryods
Disappear-----	Coarse-loamy, mixed, superactive, nonacid Histic Cryaquepts
Doroshin-----	Loamy, mixed, euic Terric Cryohemists
Eklutna-----	Sandy-skeletal, mixed Typic Cryorthents
Estelle-----	Medial over loamy-skeletal, amorphic over mixed, superactive Andic Haplocryods
Haplocryods-----	Haplocryods
Histic Cryaquepts-----	Histic Cryaquepts
Hurdygurdy-----	Medial over loamy-skeletal, amorphic over mixed, superactive Andic Humicryods
Icknuun-----	Euic Fluvaquentic Cryohemists
Jacobsen-----	Loamy-skeletal, mixed, superactive, acid Histic Cryaquepts
Kashwitna-----	Medial over sandy or sandy-skeletal, amorphic over mixed Andic Haplocryods
Kichatna-----	Sandy-skeletal, mixed Typic Haplocryods
Matsu-----	Coarse-loamy, mixed, superactive Aquic Haplocryods
Moose River-----	Coarse-loamy, mixed, superactive, nonacid Typic Cryaquents
Nakochna-----	Medial, amorphic Lithic Humicryods
Niklason-----	Coarse-loamy over sandy or sandy-skeletal, mixed, superactive, nonacid Typic Cryofluvents
Niklavar-----	Coarse-loamy over sandy or sandy-skeletal, mixed, superactive, nonacid Typic Cryaquents
Pioneer Peak-----	Coarse-loamy, mixed, superactive Aquic Haplocryods
Salamatof-----	Dysic Sphagmic Cryofibrists
Siwash-----	Medial over loamy-skeletal, amorphic over mixed, superactive Lithic Humicryods
Smithfha-----	Coarse-loamy, mixed, superactive Typic Dystricryepts
Susitna-----	Coarse-loamy, mixed, superactive, nonacid Typic Cryofluvents
Susivar-----	Coarse-loamy, mixed, superactive, nonacid Typic Cryaquents
Talkeetna-----	Medial over loamy-skeletal, amorphic over mixed, superactive Andic Humicryods
Typic Cryaquents-----	Typic Cryaquents
Typic Cryaquepts-----	Typic Cryaquepts
Whitsol-----	Medial over loamy, mixed, superactive Andic Haplocryods

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